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★ Editorial ★

Margaret Sanger

Apostle of Birth Control

BEFORE the dawn of history, the race of men had made four biologic inventions, which are dramatically described in J. B. S. Haldane's, "Dedaelus," each of which had changed human life in a vital, radical, and revolutionary manner, but had, no doubt, been considered a "perversion," until its immense value for progress was fully established.

The fifth biologic invention (the killing of bacteria to protect human life, health, and welfare) was made and has come into full acceptance within the memory of men now living. The sixth (birth control) of which Margaret Sanger has been, and still is, the prophet and apostle, appears to have passed the peak of the fanatical resistance which people make to any revolutionary change in their intimate personal lives and will, within the life span of those now on earth, be as universally accepted into all the world's reckonings as antisepsis and asepsis now are. Then this little, red-haired Irish crusader, now in the prime of her life, will be placed where she rightfully belongs (many have already so placed her), alongside of Pasteur and Lister in the galaxy of the heroes of Medicine and the world's progress.

Because the work she has done will have, during the coming generation (it is beginning to show already), as profound an effect upon the lives and activities of medical men as that produced by the labors of the two men just mentioned, it is fitting that she should be formally introduced to the profession in this manner.

Born at Corning, New York, near the end of the Nineteenth Century, one of a number of daughters (and also several sons) of an Irish stonecutter, who was also a philosopher, half a doctor, and a "free thinker" when that sort of thing was practically indecent, Margaret Higgins grew up in an atmosphere which, while her father called himself a socialist, was one of about as rugged individualism—at least in thought—as one could imagine.

Her equally Irish mother had "weak lungs," but her parents loved each other deeply and, knowing no way to circumvent the results of the physical expression of that love, there was a new baby every year or two until, when Margaret was about twenty, that valiant life flickered out as a result of "consumption" and too many childbirths.

Having acquired an interest in medicine while caring for her mother, but lacking the money to take a degree, this small, slender girl, whose enormous drive of energy was belied by her frail-looking body, entered training as a nurse, and in her outpatient work among the poor had abundant opportunity to see the physical, economic, and spiritual havoc wrought by the coming of unwanted children to families where the mother was sick and worn out with frequent pregnancies, with or without abortions, and there was not enough money to care for the children already born.

Soon after her professional career started she met, loved, and rather promptly married the artist-architect, William Sanger, but before a year was out she developed symptoms of incipient or moderately advanced tuberculosis and was sent to the

Adirondacks. Her first child was born with a difficult labor that nearly sent her the way her mother had gone, but so great was this young woman's vitality that she conquered the tuberculosis and later had two more children, carefully spaced, and though her health was still frail, she did a good deal of social service work and saw more women die of too many babies.

And then, after twelve years of happy married life and motherhood, came the inner call to make it possible for *all* women to have only *wanted* children. The poor women had begged her to tell them something *she did not know*—something the doctors, if they did know, refused to tell—so she read everything along that line that she could get hold of, which was little enough, for the arch-prude and indirect murderer, Anthony Comstock, was alive and very active, and had had his pernicious and fanatical ideas embodied in Federal laws.

Having heard that the French people knew about these "secrets," young Mrs. Sanger went to Paris, with her family, shortly before the World War, and while her husband painted and studied art, she went about, picking up a formula here and a bit of information there, until she had a fair outline of the practical technics of contraception; and then she was on fire to return home and tell her suffering sisters about it.

The stormy tale of her launching of *The Woman Rebel;* her indictment under the outrageous "Obsenity Law"; her flight into voluntary exile in war-torn England, lest her work be brought to naught by a premature trial and sentence; her meeting of the Neo-Malthusian group, Dr. Marie Stopes, Havelock Ellis (who became her teacher and almost her idol), and other prominent and broad-minded Englishmen; of her theoretic and practical studies of contraception in Holland, under the direction of Dr. Rutgers, are too long to be recited here in detail, but should be read in her recent and absorbing "Autobiography."

Then back to her home country to face her delayed trial, where almost at once she was prostrated by the death of her beautiful and only daughter. From this valley of despair she was lifted by the rising tide of public sympathy and support, and, like the valiant soldier that she is, she buckled on her armor and returned to the battle for the lives and happiness of her formerly hopeless sisters.

After frequent postponements of her trial, which became too hot for the authorities to handle, the case was dismissed. Margaret Sanger had won her first great victory and vindication!

Then she and her sister, Mrs. Byrne, opened birth control clinics. Both were arrested, tried, and served short jail sentences. While in jail Mrs. Sanger mapped out her plan of campaign: Agitation, education, organization, and legislation. This plan she has now carried through to victory and the details are so thrillingly dramatic that every thoughtful person should read them in her books, "My Fight for Birth Control," and the new "Autobiography." In addition to this, she has traveled all over the world, preaching and teaching women how to free themselves from the slavery of involuntary motherhood and the shame and danger of abortions.

Now that these earlier objectives have been gained, by a fight of unexampled courage and persistence, and the various organizations united as the Birth Control Federation of America, a steady pressure is being made to have the dissemination of birth control information made a part of all tax-supported activities for health and the welfare of women and children. Ultimately this will be done, and every physician should do his part in hastening that day.

Here is a true crusader, with as direct a "divine commission" as any of the early martyrs and prophets ever had—one who, when her home was twice burned to the ground; when her supposed friends deserted her, because her cause was unpopular; even when her loved daughter was taken from her, could use the freedom thus gained for the tireless preaching of her gospel, no matter what the consequences to herself. In such rare individuals as these, we find life on its most significant level.

Now, with the hardest part of her battle won, she is enjoying some of the pleasures and comforts which are accepted as the normal lot of less inspired and devoted women (in private life she is Mrs. J. Noah H. Slee). But the soldier in her is not dead, nor her fighting Irish blood sleeping. She will be a force to reckon with as long as the breath of life is in her (God grant that may be for many years!) And when birth control is as much a part of the world's life and thought as sanitation, aseptic surgery under anesthesia, and the routine use of domesticated plants and animals, all humanity will offer its eager homage to the Great Emancipator of Women, Margaret Sanger.

Life is precious only as it is spent in service, and in making happier the world into which we have been born.—ANNIE BESANT.

Nasal Hygiene

WHEN, as occasionally happens, men of large and approximately equal intelligence, general and specific knowledge, and ability, differ materially in regard to what appears to be a simple matter, it generally develops, on further investigation, that the subject over which the disagreement has arisen is actually not so simple as, at first, it seemed to be.

Most of the rhinologists in the United States appear to agree that the introduction of oils into the nose is, to put it mildly, not sound practice, because such liquids are said to interfere with the

normal activity of the ciliated cells of the nasal mucosa. Most of the experiments upon which this condemnation is based seem to have been made with one or several of the "nose oils" which are so widely advertised and sold to laymen, and which carry rather large quantities of menthol and various volatile oils which tend to irritate the sensitive intranasal structures. Probably some tests have been made with bland oils alone, but if so the results of such tests are not widely known to the general medical profession of this country, though specializing rhinologists may be familiar with them.

It sometimes seems, in view of the untold barrels of the various "nose drops" which are being used every year by hundreds of thousands, if not millions, of our citizens, and the relatively rather small number of cases in which definite deleterious results have been fully proved to have occurred, that the condemnation of such use may, perhaps, be a bit more violent and general than is warranted by the facts so far reported.

Now comes Professor Dart, of South Africa, a man with an exceptionally fine educational and professional background, advocating, in a delightful and scholarly article in this issue, the routine intranasal use of rather large quantities of bland mineral or vegetable oils, *without menthol*, as a measure of daily nasal hygiene.

No reasonable person would question the sincerity or the ability, either of Dr. Dart or of the men in this country who firmly discountenance the use of oils in the nose, so it would appear, to unbiased individuals like ourselves, that the observations upon which these conflicting views are based need correlation and restudy. Dr. Dart, with a rarely extensive background of anthropologic knowledge, seems to have founded his opinion on a basis of physiology and clinical observation; while a good part of the contrary opinion apparently rests upon animal experimentation. In that case it might be quite possible that the ciliated epithelium in the noses of animals, or even in that of sick human beings, behaves differently from that in the noses of healthy men and women.

In any case, we cannot help feeling that this problem has been somewhat oversimplified by certain workers in this country, and that it calls for further open-minded study.

Nothing would be done at all, if a man waited till he could do it so well that no one could find fault with it.—John Henry Newman.

Be Prepared!

THE vast majority of physicians in this country have among their patients at least one who reads the *Woman's Home Companion* regularly and thoroughly.

In the September, 1938, issue of that popular periodical appeared a full-page editorial, setting forth in well-chosen and appealing language the personal, national, and even racial importance of birth control; explaining that the voluntary spacing of children is now entirely possible and that "full information should be made available for every married man and woman"; warning against charlatans in that line; stating that the necessary information may now be legally given by medical men (except in Massachusetts and Mississippi); and urging their readers to go to their family doctors for the necessary information. The title of that editorial (in large letters) was, "Ask Your Physician."

The next month (October) there was a smaller editorial entitled, "The World Needs Birth Control," the closing words of which (*in italics*) were, "Ask Your Physician."

Women *talk* about these things among themselves, and it is probable that, for every one who *read* these editorials, from three to a dozen have *heard* about them. It seems likely that many of our readers have been among the physicians who were "asked," and those who have not been "asked," are apt to be in the near future.

What was *your* response to this request for specific information? Or what will it be when it comes? Were you or are you prepared to give this instruction, to which every married woman is entitled? Or are you, because of ignorance or prejudice, turning these women away from the natural and proper place where they should receive it—*your office?*

Whether one likes it or not, birth control is *here*. Before long, every literate woman in the country (and many of the illiterates) will know that it is now *possible* to regulate the size of their families, and they will *get* that information, sooner or later, in one way or another. Do you think it will be better for them to receive it in a dignified, scientific, and effective manner, from their family doctors, or in a furtive, inadequate, and unsatisfactory way, from some quack or bootlegger? Those are the questions *you* have to answer, *now*, and the way in which you answer them—and *act* upon your answers—will have a profound effect upon your professional standing and success in the very near future.

Women are coming to *expect* their family physicians to help them in this matter, the same as they count upon them to know the modern methods for preventing diphtheria, scarlet fever, and measles. If a woman finds that her doctor is a "back number" on birth control, she is apt to suspect that the same thing is true in regard to the other lines of professional work—and there goes a good patient!

In order to be helpful to any of our readers who are not fully posted on up-to-date contraceptive technics, we will send, to any of them who will inclose a stamp for a reply, a list of several reliable books on the subject.

Those who have doubts, or more or less complex personal problems to deal with, or desire direct, personal instruction, should write directly to the Birth Control Federation of America, Inc., 501 Madison Avenue, New York, N. Y., stating the case and mentioning this Journal.

Time is passing, and duty and opportunity do not wait for laggards. *Be Prepared!*

He that waits upon fortune is never sure of a dinner.—FRANKLIN.

Seeing the World

WHEN people talk about "seeing the world" they are generally thinking about a more or less hurried trip to London, Paris, and Vienna, or perhaps to Cairo, Mandalay, and points east.

The season is approaching when those whose ordinary activities are not sufficiently varied and interesting to keep them from staleness (and that unfortunately, means most of the population) will, if they have good sense, be planning how they will spend the customary period of respite from their vocations.

It is exceedingly well that one should gain as great familiarity as possible with the manners, customs, religion, and way of life of other peoples. Such knowledge widens one's outlook and makes for tolerance, which is, perhaps, more necessary to wisdom than is any other ingredient in human character, though it can be overworked, under the influence of misleading propaganda.

But wherever one goes and whatever exotic scenes may be presented before one's eyes, seeing the world depends, not upon the objects which are available for one's consideration, but upon one's powers of perception.

The city in which one lives, and the parks, fields, and groves adjacent to it—even one's own backyard—are as much a part of "the world" as are Rome or Yokohama or the Grand Cañon. If we have not learned to see the things that are going on about us every day, our chances of having any better success in foreign lands are meager.

What is the color of young oak leaves, when they first put forth, or of the blossoms of the maple trees? When does the first dandelion or violet or hepatica or bloodroot open its bloom to the sun? How does the song of the thrush differ from that of the robin? What are the nesting habits of the swallow? The catbird? The crow? At what hour does the great summer star, Arcturus, rise in mid-June?

Those who cannot answer such questions as these with reasonable accuracy have small chance of returning from a "sightseeing" trip with any but the haziest impressions of the panoramas which have unfolded before them.

Let those who are deterred, by lack of time or cash, from availing themselves of the cultural and recreational possibilities of the Canadian Rockies, the Mediterranean, or Peru, consider the idea of procuring a reasonably good camera and a field glass and setting out, afoot, to explore the (generally) unknown country which lies within a radius of five miles from their doorsteps. If such a pilgrimage is entered upon after, or interspersed with, a reasonable amount of preparatory study, its potentialities for physical, intellectual, and spiritual growth and development are enormous.

Let no one feel that, because of pecuniary embarrassment or press of duties, he is cut off from the possibility of "seeing the world." If God has vouchsafed him eyes and curiosity and will, there lies at his disposal a considerable section of the planet on which we live—enough, if properly studied, to enrich any life with the joy of knowledge and understanding.

NEXT MONTH

Dr. Herman J. Achard, of Glendale, Calif., will present the modern view of the influence of the endocrines upon personality in an interesting and practical manner.

Dr. Clarence L. Wheaton, of Chicago, Ill., will consider the pathology of coronary atheroma and its clinical connotations.

Dr. Edwin W. Hirsch, of Chicago, will illustrate the etiology and management of the common and distressing condition, prostatic neurosis, with a carefully analyzed case report.

COMING SOON

"Pelvic Conditions in Women Simulating Appendicitis," by Howard W. Champlin, M.D., Chicago, Ill.

"Foreign Bodies in the Appendix." by George C. H. Franklin, M.D., and Paul Kisner, M.D., Fort Leavenworth, Kans.

★ *Leading Articles* ★

Hygiene of the Upper Respiratory Tract

By

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THE AUTHOR of an article on *Occupational Diseases* (in "Occupation and Health," Geneva, 1930), points out that, in the United States, according to the returns of 35 sickness insurance societies, comprising about 100,000 persons, 47 percent of all the diseases for which sick pay was accorded from 1921 to 1926 were due to respiratory affections. On the clinical form being investigated, it was found that 70 percent of the absences were due to what is commonly called a "cold," which caused incapacity for work in 4 out of 10 men, and 7 out of 10 women yearly.

Facts such as these illustrate the generally acknowledged, devastating effects of the common cold and its complications; they account directly for from one-half to three-quarters of human inefficiency and, indirectly, to an even greater proportion of human disability. It is, therefore, obvious that any information which may lead to an amelioration of these appalling conditions will be of great social and economic value.

Scarcely a single human being escapes the breaking down of the nasal defenses in childhood. Measles, scarlet fever, diphtheria, whooping-cough, or rheumatism; colds, catarrhs, hay fever, or hives; some manifestation that the foreign protein or bacterial enemy had penetrated the barrier, is so common as to be expected and even welcomed during infancy. These pass, only to leave their heritage of chronic sinusitis, tonsillitis, acne, boils, abscesses, middle-ear disease, mastoiditis, maxillitis, and dental decay, which are but the precursors of innumerable systemic conditions, including psychic or mental disorders, [1, 2] arising from focal sepsis.

Biologic Development

The two fuels of the body are food and air, each of which has its own channel of entry—the mouth and the nares, respectively. Apart from the direct hypodermic entrance of disease through the bites of insects, tearing of the skin, or actual puncture of the epidermis by parasites, diseases must arise either through defects in these fuels or the passage of toxins (or organisms producing toxins) into and beyond these obvious channels of entry into the body. The only other orificial lines of disease approach are the conjunctival sacs (which are part of the same facial apparatus) and the anal and urogenital apertures. Important as they are, the infections that ascend along these latter routes are few in variety and their progress is dependent, to an undetermined extent, upon the state of the body engendered by the integrity or otherwise of the two fuel-receiving channels.

These channels of fuel-entry, the mouth and nares, are produced by evolutionary modifications within a single segmental tissue unit, the territory supplied by the trigeminal nerve. With the specialization of the cephalic skin territories in front (to produce the olfactory and visual epithelia) and behind (to produce the auditory, vestibular, and gustatory epithelia), this extraordinary trigeminal nerve has expanded its caliber and extended its territory to perform protopathic, epicritic, heat-and-cold-perceiving—in brief, every other type of sensory service for the whole of the anterior (or cephalic) end of the body, as far posteriorly as the second cervical segment, with the exception of the restricted area supplied by the glossopharyngeal nerve in the mouth and Arnold's branch of the vagus nerve behind the ear.

This sensory trigeminal unity of the head structures is frequently lost sight of when its surgery is divided between the various specialists of ophthalmology, oto-rhinology, laryngology, dentistry, oral surgery, and neurology.

The older of these two food channels is the mouth. During the aeons that have rolled by since the first, worm-like, ancestral fish had a differentiated ectoderm and endoderm, the gut has been accommodating itself to food; and the trigeminally supplied ectoderm surrounding the mouth has been elaborating jaws and teeth. Nature's barriers against unwholesome food comprised, not only the smelling and tasting mouth, but also the regurgitating throat and stomach, and the evacuating bowel and rectum.

These adaptions had been proceeding over the 100,000,000 or more years of the Proterozoic and Paleozoic periods, before the emergence on land (some 15,000,000 years ago) evoked the formation of the new respiratory pathway. The construction of an entirely new respiratory apparatus, the upper part within the trigeminal territory, lower within the vagal territory, was the price of leaving the water and living on land. This air-flow remodelling is, by comparison with the jaws and gut, a thing of yesterday—an adaption covering less than a quarter of the time period embraced by the latter. It involved, not only the outpouching of the lungs and introduction of a diaphragm, thus discriminating between thorax and abdomen, but also the making of a double-storied face to separate a closed mouth from an ever-open nose. All these remade respiratory parts of the body are newer, more delicate, and more vulnerable than the alimentary tract. Their barriers to infection are less effective and less obvious. Their bacterial foes are the true "Captains of Death" throughout the entire kingdom of the amniota.

1.—Hunter, William: Chronic Sepsis as a Cause of Mental Disorder. *Brit. M.J.*, Nov. 5, 1927, pp. 811-815.
2.—Pickworth, F. A.: "Chronic Nasal Sinusitis and its Relation to Mental Disorder." H. K. Lewis & Co., Ltd., London, 1935.

Coinciding in emergence with the internal mechanisms for controlling water-loss and heat-loss from the body, and for more active body movement, the respiratory apparatus became the premier site of those air-borne infections, which more particularly manifest themselves in the fevers of infancy and childhood and in the fibroses and granulomas of old age. Coinciding also with the evolution of an improved brain for the discharge of these added functions, it is not surprising that the diseases of the respiratory tract are those whose neural and mental effects, whether in terms of temporary inefficiency or of permanent disability, are so impressive.

It was, perhaps, natural, biologically, that the oral aspect of focal sepsis should be thoroughly appreciated before the nasal aspect was proportionately assessed. The terrors which come to a man through food are local and tangible, compared with the air-borne pestilences that fly both by day and night. These alone have world-wide endemicity, frequent epidemicity, and occasional pandemicity. After all, the place of the air as a body fuel was not appreciated until the time of Lavoisier; its place as a disease-carrier only half a century ago. Food and the evils of unclean food have been appreciated by man ever since he achieved understanding; even the brutes discriminate between foods. The most primitive races have their food rituals; the rude Kalahari Bushmen practice a careful ritual of oral hygiene after food, picking their teeth with a grass stem or small chip of wood, massaging their gums, and rinsing their mouths with water.

Air, on the other hand, is free; it has no rituals; not even civilized man has elaborated a system of nasal hygiene. With typical human inconsistency, a daily ritualistic cleansing of the face, eyes, mouth, teeth, ears (and even behind them) is inculcated from childhood. The only procedures children learn about their noses is to wipe, blow, or pick them. To avoid these tactics, they sniff-up and swallow the infection-laden mucus. We have a hygiene for every other orifice of the body; we have no hygiene for the nares.

Behavior of the Nasal Mucosa

It was for reasons such as these that I gathered together, in an article on "Nasal Hygiene: a Contribution to the Prevention and Control of Nasal Infection," which appeared in *The Leech* (June, 1936), the information accessible to me on the topic. I pointed out how, by painting the "sensitive area of the nose" with Mandl's paint,* carried in a small swab of cotton round the end of a wooden match, I was enabled, almost instantaneously, to free the nasal passages, control "watering" of the nose, relax a constricted throat, overcome the sneezing and irritant cough of the early cold, and clear the roughened palate and furred tongue, which frequently occurs in "cold" infections.

From this it appeared that all the symptoms of the common cold were in the nature of local reflexes (nasal congestion or "stuffiness," excessive secretion or "wateriness," roughened palate, furry tongue, tickling palate, etc.) or distance reflexes (pain in the throat and under the *manubrium sterni*, constriction of the pharynx and throat) through the trigeminal arc to the *tensor veli palatini* muscle or through the neighboring glossopharyngeal and vagal arcs to their appropriate musculature from the "sensitive area of the nose." When this area was appropriately treated, the syndrome of symptoms evoked by its irritation failed to appear, or was immediately arrested if it had appeared.

In those cases where infection has managed to spread beyond those portions of the nares accessible to such treatment by painting with a small swab on an applicator, something further is needed in the way of treatment if we are to dislodge mild but established chronic infections in the adjacent frontal, ethmoidal, and sphenoidal sinuses.

From the publications cited, whether we consider the average school-child, the laboring population, or the inmates of mental hospitals, relatively few human beings fail to harbor germs, which, under suitable conditions, give rise to "colds," with or without their complications. Even amongst the Kalahari Bushmen, whom I have had an extensive opportunity to study lately, repeated outbreaks of catarrhs of the conjunctivae and the nares occur, the flora of which, as Dr. Ordman has recently discovered, does not differ appreciably from the flora of the same conditions in Europeans locally. Amongst them, as amongst Europeans, these outbreaks can be ameliorated by pouring a pipetteful (1 dram) of 1-percent Argyrol solution into each nostril (the head being well thrown back), in such a way that the nares and sinuses are flooded with the weak antiseptic. Bland oils (such as olive oil or almond oil) can be poured into the sinuses, either alone or in association with a couple of drops of essential oils, such as eucalyptus or cedarwood oil, with similar useful medical effects.

In chronic infections, treatment with weak disinfectants, such as Argyrol, Protargol, Collargol, Hexylresorcinol, or with oils, can be conducted with impunity, according as symptoms manifest themselves, over extended periods or at protracted intervals.

Using olive oil alone, purely as a hygienic, cold-preventing measure, during April, 1938, while attending a military camp, I instilled a teaspoonful (1 dram) of oil into each nostril daily. When allowed to flood the sinuses in this manner, little if any of the oil escapes from the nares. At the end of the fortnight I had absorbed in this manner *over three ounces of the oil*. This experience impressed me with the remarkable capacity, which the lymphatics of the sinuses possess, of absorbing large amounts of lipoidal substances directly into the body. Simultaneously it revealed the measureable extent to which toxic substances must be assimilated from these areas when affected. Incidentally it revealed our deplorable ignorance concerning the absorptive capacity of the upper respiratory apparatus, and the potential importance of this route in the sphere of practical medication.

Through this observation my attention was drawn to the valuable paper by Pratt and Smelzer,[3] and others,[4, 5, 6] which showed that, when the hormones of the ovary and pituitary are sprayed

*Iodine, 5 grains; potassium iodide, 10 grains; phenol, 2 minims; glycerin, ½ ounce.—Ed.

3.—Pratt, J. P., and Smeltzer, M.: Nasal Spray Method of Administering Hormones of the Ovary and Pituitary. *Endocrinology*, Vol. 13 (1922), p. 320.

4.—Blumgart: *Arch. Int. Med.*, 29 (1922), p. 508.

5.—Kintner and Greene: *J.A.M.A.*, 91:1370, 1928.

6.—Hofbauer and Hoerner: *A. J. Obst. & Gynec.*, 14:137, 1927.

into the nose, all of the material appears to be absorbed without sign or symptom of local irritation, and the nasal spray administration of ovarian hormone, pituitrin, pitressin, and pitocin is efficient, easy, and safe.

The work of Childrey and Essex (*Arch. Otolaryng.*, 14:564, 1931) demonstrates that the mucosa exercises a considerable degree of selectivity in absorbing materials. Histamine, nicotine, ephedrine, epinephrin, rattlesnake venom (crotalin), and phenolsulphonephthalein were injected into the frontal sinuses of dogs and cats, and their absorption was compared with that which occurs following their cutaneous administration. The authors secured positive information about the absorption of phenolsulphonephthalein and its appearance in the urine, and of the absorption of snake venom, but the absorption was delayed. They obtained negative results with the other drugs and presumed that "such drugs were incapable of passing the mucosa in sufficient amounts to cause an appreciable systemic affect." Showing that absorption from the nasal cavities is a slow process, they concluded that there is a "wide margin of safety in the use of highly toxic agents in the treatment of diseases of the sinuses."

Unfortunately, neither physiology nor pharmacology have afforded us any mathematical data concerning this important region of the body in this assimilative respect. We consequently remain in a state of virtually total ignorance concerning, not merely its capacity as a channel of entry for nutritional and medicinal materials into the body, but also its real part in the production of disease manifestations.

Apart from colds, headaches, and sinusitis, the upper respiratory apparatus hardly enters into serious medical consideration, unless one is searching for a focal site to explain some obscure chronic condition. But a series of experiments conducted recently by Dr. J. H. S. Gear, in the South African Institute for Medical Research, in which he produced lobar pneumonia in rabbits by simply instilling pneumococcus cultures into the nares, and broncho-pneumonia without consolidation by instilling staphylococcus cultures or influenza bacillus cultures, seem to show that the direct massive absorption of toxins from the upper respiratory tract is an important agent in evoking the disease.

Although the direct passage of organisms into the lower part of the respiratory apparatus may not be entirely excluded in such experiments, it is equally patent that nobody has excluded the rôle of the upper respiratory tract in evoking the symptoms of acute infections; and because of this failure, no systematic attempt has been made to deal with the manifestations of respiratory diseases by treatment of the upper tract as an entity, and more particularly as the primary entity, in such conditions.

Whether treatment of the upper tract will affect the course of respiratory affections, remains for the future to reveal; but once they are established in an individual, there can be no question that, from the point of view of the prevention of lung diseases, the concentration of our attention upon the upper respiratory tract is all-important. The protection and reenforcement of the nasal barrier against the inrush of germ, chemical, and parasite foes towards the lungs and brain is the most insistent problem of human hygiene, from the earliest breath inspired at infancy, to old age, especially in an age complicated by civilization, industry, and gas-warfare.

The Nose an Air Filter

Modern urban areas, such as that of London, call upon the nasal barrier to deal daily with 15 times the "particle-load" it would be called upon to contend with in a rural area such as Argyllshire. The *Lancet* Atmospheric Pollution Committee's Report (Feb., 1916) showed that, *on the average, 15 tons of solid matter per square kilometer per month* were deposited in the various towns of England and Scotland they examined. The lowest figure cited in the report is that for the relatively rural area of Malvern, which is 2.05 tons per square kilometer per month.

That England takes no priority in this respect is shown by H. W. Green's statement concerning Cleveland, Ohio, U. S. A. (*Amer. Journ. of Pub. Health*, 1930), during a 24-month period (June, 1927, to May, 1929), that "an average of *119 tons* of material per square mile per month was deposited from the atmosphere," despite the fact that "the atmosphere in Cleveland is not nearly so polluted as that in many other cities in the United States."

The human "air-filtration plant," being designed for rural activities (originally those of arboreal creatures and more latterly those of terrestrial hunters), is at a grave disadvantage in the dust-laden or murk-sodden atmospheres of modern workshops and cities. Its filtering action is a double one of passing the air, first, through an oil-covered, hairy web in the nasal vestibule, and second, of sucking it past two closely-approximated, mucus-covered sheets of tissue. This double filter action is similar to the combined mesh-and-oil trap for dust, used in the air filters of modern automobiles. Its effectiveness is shown by St. Clair Thompson's discovery that, although thousands of microbes might be contained in the inspired air, the expired air can be sterile.

"Thompson and Hewlett say that healthy membranes only exceptionally show any micro-organisms whatever. The interior of the great majority of normal nasal cavities is perfectly aseptic. On the other hand, the vestibules of the nose, the hairs lining them, and all crusts formed there are generally swarming with bacteria" (Hill and Clement: "Common Colds: Causes and Preventive Measures." 1929, p. 24).

Any individual, whose car is furnished with an air filter, will find his automobile losing power by air strangulation unless he cleanses the filter every couple of thousand miles, or even more frequently if the roads are dusty. The human air filter similarly becomes strangled and virtually inoperative daily, according to the nature of the individual's employment.

Oils for Protection

The obvious procedure relative to ordinary nasal hygiene is, therefore, the frequent cleansing of the nasal vestibule, not with water, which removes the sebaceous oily covering of the vestibule and its hairy web, but with bland oils that reinforce its natural protective mechanism. Similarly, in my experience, it is better to flood the nares with oils than with watery solutions, such as saline douches. These, unlike the oils, when they remove the mucus, leave behind no protective layer and so enhance the opportunity for disease-producing germs to get into direct contact with the epithelium.

E. P. Poulton and F. A. Knott, in "The Common Cold; Its Prevention and Cure" (*The Practitioner*, 1936), after 20 years' experience, advocate the application of Glegg's mixture—3 parts of liquid paraffin to 1 part of soft paraffin (white vaseline), flavored slightly with rosettol, a pipetteful of which is driven down each nostril so that it is felt at the back of the nose, the head being thrown well back, preferably with the patient lying down. In this long period only one of the patients and medical friends, to whom it was recommended, failed to notice any benefit. The authors concluded that "the mucous membrane, where the infection is situated, becomes coated with the oily mixture, and so proves a less favorable environment for the infecting organism."

Our knowlege of the effects of the various oils on bacterial growth is extraordinarily limited, as it is not a subject that has attracted much attention. The resistance of oily substances in general, and of mineral oils in particular, to bacterial infection, however, demonstrates the rationale of such treatment. The protective character of an oily layer over a wounded or inflamed surface lies, not only in its preventing the access of germs, but also in preventing their multiplication through denying the access of air to aerobic types. It may further act by altering the surface tension of the fluid medium, to which many organisms are particularly sensitive.

It has been the custom, for generations past, to utilize sprays with an oily basis in the treatment of nasal conditions. In general, these are strongly impregnated with menthol and various essential oils. Numerous proprietary mixtures of this type are prevalent in the market. Not based in any way on accurate knowledge concerning the growth-inhibiting or actual germicidal effects of the component oils, either individually or collectively, there is little question that the majority of these preparations are as irritant to the delicate nasal mucosa as they are lethal to the organisms. Their irritative effect leaves the nares more vulnerable to attack than they were prior to the administration of these powerful drugs.

Absorption from the Nose

The data cited above concerning the absorption of 3 ounces of olive oil from the sinuses during a fortnight, and the quasi-hypodermic effects of administering hormones by the nasal route, show that we can no longer look upon the effects of drugs introduced into the nares as being restricted to the sites of application. For better or worse, they are forthwith assimilated, at unknown rates, into the lymphatic stream and thence throughout the body. When, for example, as described in Todd's "A Routine Treatment of Asthma" (*The Practitioner*, 1933), a Dowling pack of long-fiber cotton, soaked in 10-percent Argyrol solution, is introduced between the middle turbinal and septum, from the posterior choana to the anterior end of the turbinal, an unknown amount of the Argyrol is circulated in the body. Out of 125 patients so treated, he reports 28 percent as cured; 63 percent improved; 5 percent unchanged; and 4 percent worse after the treatment. Although he may be perfectly correct in regarding these results as a demonstration of *the nasal factor in asthma*, the curative effects may be due as much to the circulation of the Argyrol in the system as to its local effect upon the nasal mucosa.

Knowledge relative to the passage of fluids from the nares is very important in regard to respiratory hygiene. Hitherto I have referred only to the absorption from the nares into the lymphatic stream and general circulation. It has been maintained by certain observers, since G. Schwalbe's (1869) experiments, that free lymphatic connections exist between the subdural space, on the one hand, and the nasal mucosa, the lymphatic glands of the neck, the perilymphatic space of the ear labyrinth, and the perichoroidal space of the eye, on the other (vide Bartels, "Das Lymphgefasssystem," in Bardeleben's "Handbuch der Anatomie des Menschen"). Key and Retzius, Michel, Flatau, Cuneo, and André proved the same type of connection, especially in the case of the nostrils, while Falconi established similar connections for the frontal sinus.

Recently A. D. Speransky and his co-workers ("A Basis for the Theory of Medicine." Inra. Coöper. Pub. Soc., Moscow, 1935) have devised experiments, in the All-union Institute of Experimental Medicine, whereby a ring of muscle is inserted round the spinal cord just below the medulla oblongata, and the subarachnoid space of the spinal medulla is thus separated from that of the brain. Subsequently these experimental animals were injected with India ink, into the subarachnoid spaces. From the spinal subarachnoid space, it spreads into the lymphatic channels in the dura and into the lymphatic glands, especially the deep glands lying close to the dorsal wall of the trunk (mesenterial, intercostal, and deep cervical). When Gerota dye was used, the deep retroperitoneal glands were dyed blue within 5 minutes.

From the cranial subarachnoid area the ink spreads under the sheaths of the olfactory, optic, and auditory nerves. In the case of the olfactory epithelium, it fills the lymphatic network and then passes out onto the surface and is exuded through the nostrils. It apparently finds its way through the special hollows and stomata on the surface of the nasal mucous membrane, described by Key and Retzius, Weed, Baum, and Frautman. To make assurance doubly sure, V. A. Chudnosovyetox (Kazan), in the case of the nasal epithelium, injected the blood vascular system as well as the subarachnoid space, and displayed the dual network in the nose in both living animals and fresh bodies.

I quote these observations at length because many people deny the existence of these lymphatic connections between the nares and the subarachnoid space. I have frequently injected the nasal epithelium of freshly-killed sheep with Prussian blue and watched the immediate spread along lymphatic channels, both from the nasal septum and the lateral wall, along the course of the *fila olfactoria* and into the endocranial epidural space, but have not determined its further distribution.

Dr. Pickworth ("Chronic Nasal Sinusitis and its Relation to Mental Disorder." p. 121. H. K. Lewis & Co., Ltd., London. 1935) has demonstrated the epidural flooding of the cribriform area, and the area surrounding the cavernous sinus, and the sinuses draining thereto, by a diffusible dye from the nasopharynx. Since, ordinarily, the subarachnoid fluid does not flow into the nose and escape through the stomata above referred to, we may justifiably assume that the ordinary line of flow between the two regions occurs in the reverse

direction and that direct effects upon the subarachnoid fluids are brought about by the lymphatic drainage from the nose into the subarachnoid space.

The facts about the direct connections, which exist between the nasal mucosa and the endocranial spaces, assist in showing how easily the nervous system can be affected by intranasal conditions, and provide still further arguments, if any were needed, for the urgency of nasal hygienic concepts and for undertaking research in that direction.

The extraordinary protective action of liquid paraffin and of olive oil in emulsion (50 percent, with gum acacia), in protecting animals from superlethal doses of diphtheria, tetanus, and other toxins, as demonstrated by G. N. Meyers (*Jour. Med.*, 34:1934, pp. 250-264), provides another unexploited approach towards the control of nasal infection. We know that the flooding of the sinuses with ordinary oils, in mild degrees of sinusitis, is not followed by untoward effects when the oils, which are bound to be accompanied by toxins from the infected sinuses, are circulated in the body. In the light of Meyers' experiments, it would appear that even the gravest forms of sinusitis could be treated with impunity by emulsified oils.

At any rate, for routine hygiene of the nostrils, for aborting a common cold, and for systematic treatment of mild grades of chronic sinusitis, a bland oil or a weak antiseptic suffices, provided it is used in sufficient quantity to flood the sinuses. A drug affording both these qualities of mild antisepsis and oiliness (with emulsification) would seem to approximate the ideal. Owing to the site of application, it requires also a sufficient quantity of some essential oil in the mixture to appeal, rather than be repugnant, to the average sense of smell.

With respect to oiliness and antisepsis, Liquid Iodex and Lipiodol would probably be suitable drugs, but I have had no experience of either; nor would either be suitable in the cases of iodine idiosyncrasy, which sometimes occur.

Vaccine therapy is valuable in arresting the progress of, or actually preventing disease by building up the bodily defenses, but its services in eradicating foci of infection are definitely limited and require the support of antiseptic or eradicatory measures wherever they can be applied. The vigor and efficiency with which such foci are attacked in the oral pathway provides an indication of the attention which needs to be riveted on the nasal pathway.

An appropriate treatment, based on accurate knowledge, not only of the anatomy and physiology of the upper respiratory apparatus, but also of what the drugs themselves are doing, still remains a thing of the future; but we can rest assured that the gradually converging attack upon this region of the body, from the etiologic, pharmacologic, medicinal, and preventive points of view, heralds a new era of human well-being.

Moccasin Venom in the Treatment of Hemorrhagic Conditions*

By

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ALTHOUGH the use of moccasin venom in the treatment of various conditions associated with hemorrhage, was introduced only within the past ten years, it has already become an accepted therapeutic procedure.

The use of snake venom for this purpose was suggested by observations made by S. M. Peck and H. Sobotka,[1] while working with the so-called Shwartzman phenomenon. This is a local reaction induced by certain bacterial filtrates when rabbits are given, intradermally, a primary, sensitizing injection, followed by an intravenous injection. No local hemorrhage results from the primary intradermal injection, but when, a day or two later, an intravenous injection of the same filtrate is given, a hemorrhagic reaction occurs at the site sensitized by the intradermal injection.

Rabbits show marked individual differences in their response to this test, and as intradermal injection of snake venom causes a similar local hemorrhage, Peck and Sobotka thought it might be possible to select rabbits suitable for the Shwartzman test by first determining the severity of their reaction to venom. They showed that animals developing intense purpuric reactions from venom were most likely to have a marked Shwartzman reaction; but of greater interest was the observation that the reaction could not be elicited in rabbits which had received injections of snake venom from two to four weeks earlier.

The venom of the water moccasin was found to be more effective in preventing the reaction than the venoms of several other American pit vipers tested at the same time.[1,2] Inhibition of the reaction did not depend on circulating antibody or other change in the blood, but was surmised to be due to some change in the vessel wall, making it more resistant to rupture or to leakage of blood.

With the idea that a similar increased resistance to hemorrhage and oozing might result in man from the action of the moccasin venom, Peck tested the effect of the venom clinically in cases with various hemorrhagic conditions and with various allergic manifestations. Favorable results were seen in purpura, chronic epistaxis, and chronic uterine bleeding, but little or no benefit was experienced in hemophilia or the allergic manifestations.[3,4]

Since this time, a considerable number of clinical observations have established more or less definitely the type of case in which moccasin venom is likely to be of value. It seems to be indicated in all those conditions with a tendency to hemorrhage dependent on, or associated with, defective resistance of the blood-vessel walls. Included are various types of purpura, recurrent epistaxis, metrorrhagia and menorrhagia, essential hematuria, etc.

*From the Mulford Biological Laboratories, Sharp and Dohme.

The Venom Solution

The venom, as used clinically, is a 1:3,000 solution of the venom of the water moccasin (*Agkistrodon piscivorus*), a pit viper related to the rattlesnakes. This is the only poisonous water snake found in North America. It is found near, or swimming in, rivers, streams and other bodies of water in the southeastern part of the United States, from Virginia to southern Florida, and along the Gulf states to the Mississippi river, along which it ascends to the mouth of the Missouri river. The venom solution is carefully standardized, filtered to assure sterility, and preserved with an organic mercurial antiseptic.

Method of Use

The venom may be injected intradermally or subcutaneously. The first dose is 0.1 cc. (0.033 mg. of dry venom), given intradermally. This injection results in the formation of a wheal ½ to 1 inch in diameter, surrounded by an area of redness. In persons with certain hemorrhagic conditions, ecchymosis occurs around the site of injection in from ½ hour to 24 hours. The ecchymotic reaction occurs early and is usually quite marked in cases of purpura. If the local reaction is not unduly severe, the next dose is increased to 0.2 or 0.4 cc., given either subcutaneously or as 1 or 2 intradermal doses of 0.2 cc. each. The doses are rapidly increased to 1 cc. subcutaneously. At first, doses are usually given two or three times weekly, but if prompt action is required, may be given daily. As improvement occurs, the interval is lengthened to one weekly, or even less frequently. No general reactions are to be expected.

A condition of sensitivity often develops after the first 4 or 5 injections (about 2 weeks after beginning treatment). This is shown by the formation, at the site of injection, of a rounded swelling from 2 to 4 inches in diameter, appearing from 3 to 10 hours after the injection, reaching its maximum intensity in 12 to 24 hours, and gradually subsiding. A slight rise of temperature may occur, but usually there is no general reaction. When such sensitization occurs, treatment need not be discontinued, but the patient must be *desensitized*, which is readily accomplished by reducing the dose to 0.5 cc. of the 1:3,000 solution and doubling each subsequent dose up to a maximum of 1 or 2 cc. After desensitization, administration may be continued over long periods without further difficulty.

With the doses suggested, a decrease in the tendency to bleed is often seen after 4 or 5 doses, but in cases having very severe hemorrhage, especially if life is threatened, and in which it is necessary to check bleeding before sensitivity develops, the doses may be increased more rapidly, or the interval between doses shortened. Peck, Rosenthal, and Erf[5] give 0.4 cc. after the preliminary intradermal dose, and increase rapidly to 2 cc. Greenwald[6] follows the first dose by 0.5 to 1 cc., repeated every 2 to 5 days. Davin, Spielman, and Rosen[14] give 0.5 cc. as the second dose and increase rapidly to 2 cc. In one case, in which prompt control of bleeding was necessary to save life, Imerman[8] gave 5 cc. as the fourth dose, without eliciting any general or severe local reaction. From these reports it would seem that the doses first recommended may be unduly conservative.

The Intracutaneous Test

As already explained, the venom is first given intradermally as a 0.1 cc. dose of the 1:3,000 solution. In persons with fragility of the blood-vessel walls, this causes an ecchymosis of varying extent, depending on the degree of fragility. Typically, this effusion of blood occurs within an hour. Later occurrence is classed as a delayed reaction. Local ecchymosis is usually absent or slight in normal persons and those with conditions not involving the blood vessels.

The occurrence of a typical hemorrhagic reaction is an indication that the case is a suitable one for venom treatment. From time to time the test should be repeated and, in most cases, it will be found that reactions become progressively less marked as treatment continues. The disappearance of the reaction or its change to the delayed type is often the first indication of improvement and may precede any recognizable betterment in the clinical condition. Patients having a continued positive reaction, are likely not to show any clinical response.

Clinical Reports

Purpura: Greenwald[6,7] has treated 7 cases of thrombocytopenic purpura with intradermal injections of moccasin venom. Only one failed to respond. Injections were given every other day at first, then every 4 days, beginning with 0.1 cc. of the 1:3,000 solution and increasing to from 0.4 to 0.6 cc. Active bleeding ceased after the third or fourth injection and improvement was permanent. The platelet counts rose to normal and the bleeding time fell from an average of 30 minutes to an average of about 5 minutes.

Peck, Rosenthal, and Erf,[5] in a large series of cases, showed that the venom is especially effective when the reaction to the intradermal test is positive. The cases included idiopathic thrombocytopenic purpura, and also purpuric conditions of obscure origin not associated with a low platelet count. The test was negative in purpura accompanying anemia and leukemia, hemophilia, and various infections, including syphilis. Vitamin C was given to some of the patients, but although its action on the bleeding was favorable at times, it differed from that of venom, in that there was no rise in the platelet count, such as always followed the use of venom.

C. P. and S. W. Imerman[8] report one case of thrombocytopenic purpura with massive hemorrhage threatening life. After doses of 0.3, 0.5, and 1 cc. of 1:3,000 moccasin venom solution had failed to check the bleeding, a dose of 5 cc. was given during shock. The patient's condition began to improve at once, and within 24 hours the bleeding had stopped completely and did not recur.

Epistaxis: Goldman[9] used venom in 42 cases of chronic epistaxis, in all of which the bleeding was checked. In 28 cases, bleeding ceased permanently after a short course of injections; in the others continued treatment was required. The most striking results were seen in two cases of angioma of the septum, in one of which the tumor disappeared entirely, while in the other it was reduced to one-fourth of its original size.

Dack[10] used moccasin venom in two cases with daily severe nasal bleeding. In one case the bleeding ceased after the first injection, but three more were given. There was no further bleeding for 8 months, and then a slight attack, which was checked

by another dose of venom. The other case required 3 weeks of treatment for complete control of bleeding, and continued occasional injections were required to maintain permanent freedom from attacks.

Uterine Bleeding: Peck and Goldberger,[11,12] in functional uterine hemorrhage, noted decrease of the menstrual flow, often to normal, in almost all cases. About 6 injections were given, over a period of from 2 to 3 weeks, before improvement was shown. Bleeding due to fibromyoma was not much influenced.

Watkins[13] treated 7 cases of menorrhagia in young women, with favorable results in all. In 3 cases other methods of treatment had failed to bring any improvement and bleeding had been so severe that hysterectomy had been advised.

Davin, Spielman, and Rosen[14] studied the effect of moccasin venom on the extent of puerperal bleeding in 51 women. They found that the duration of bleeding and the amount of blood lost were materially decreased by venom treatment, and recommend its use in anemic women and those with a history of severe bleeding after previous deliveries.

Miscellaneous Conditions: Watkins and Thompson[15] used moccasin venom in 12 cases of **essential hematuria.** In all cases, bleeding ceased after from 1 to 4 weeks of treatment (average 2 weeks) and did not recur for from 1 to 10 months. In these cases "all other accepted methods of treatment had been used without control of the hemorrhage, prior to the use of snake venom."

Swett[16] is very enthusiastic about the use of moccasin venom to control continued bleeding into the anterior chamber after *cataract extraction.* He reports 6 cases, in some of which other methods of treatment had failed. In all, bleeding was checked by 1 or 2 injections, but these were continued daily for a week to prevent recurrence. He considers it by far the best method available to check oozing blood from the iris incision.

Unreported observations of the successful use of this venom to control *hemoptysis* in pulmonary tuberculosis have also come to my knowledge, but its use in this condition can not be considered established.

The use of moccasin venom for other indications than control of bleeding is still in the experimental stage. Kelly[17] gave injections of 0.2 cc. of the 1:3,000 solution to 12 persons with incipient *herpes simplex.* In all cases the condition was checked. After formation of the vesicle it was without effect. Peck[18] reports in detail 3 cases diagnosed as bullous *pemphigus,* in all of which the eruption cleared up after the use of venom. All were young persons. In older patients, the results were disappointing.

Summary

Moccasin venom, in 1:3,000 solution, has been found of value in many types of cases associated with hemorrhage, where the etiologic factor lies in the blood-vessel wall, rather than in the blood. Its value has been most fully established in thrombocytopenic purpura and in chronic nasal and uterine bleeding. It is of little or no value in hemophilia and in certain purpuric conditions associated with infection.

It may be of some value in certain skin affections associated with vesicular or bullous eruptions.

References

1.—Peck, S. M., and Sobotka, H.: Production of Refractory State As Concerns the Shwartzman Phenomenon by the Injections of Venom of the Moccasin Snake (*Agkistrodon piscivorus*). *J. Exper. Med.*, 54-407, Sept., 1931.

2.—Peck, S. M.: Snake Venoms and Shwartzman Phenomenon. *J. Immunol.*, 25:447, Nov., 1933.

3.—Peck, S. M.: Attempts at Treatment of Hemorrhagic Diathesis by Injection of Snake Venom. *Proc. Soc. Exper. Biol. & Med.*, 29:579, Feb., 1932.

4.—Peck, S. M., and Rosenthal, N.: Effect of Moccasin Snake Venom (*Agkistrodon piscivorus*) in Hemorrhagic Conditions. *J.A.M.A.*, 104:1066, Mar. 30, 1935.

5.—Peck, S. M., Rosenthal, N., and Erf, L.: Purpura. Classification and Treatment, with Especial Reference to Treatment With Snake Venom. *Arch. Dermat. & Syph.*, 35:831, May, 1937.

6.—Greenwald, H. M.: Dilute Snake Venom for the Control of Bleeding in Thrombocytopenic Purpura. *Am. J. Dis. Child.*, 49:347, Feb., 1935.

7.—Greenwald, H. M.: Thrombocytopenic Purpura. *J. Med.*, 38:1398, Nov. 1, 1938.

8.—Imerman, C. P., and S. W.: Thrombocytopenic Purpura Hemorrhagica. *California & West. Med.*, 48: 335, May, 1938.

9.—Goldman, J. L.: Moccasin Venom Therapy for Recurrent Epistaxis. *Arch. Otolaryng.*, 24:59, July, 1936.

10.—Dack, S.: Treatment of Intractable Nasal Hemorrhage by Injections of Moccasin Snake Venom. *J.A.M.A.*, 105:412, Aug. 10, 1935.

11.—Peck, S. M., and Goldberger, M. A.: The Treatment of Uterine Bleeding With Snake Venom (*Agkistrodon piscivorus*). *Am. J. Obst. & Gynec.*, 25:887, June, 1933.

12.—Goldberger, M. A., and Peck, S. M.: Additional Data on the Treatment of Uterine Bleeding With Snake Venom. *Am. J. Obst. & Gynec.*, 33:469, Mar., 1937.

13.—Watkins, C. H.: Experiences with Snake Venom in Menorrhagia. *Proc. Staff Meet., Mayo Clin.*, 11:261, Apr., 1936.

14.—Davin, E. J., Spielman, F., and Rosen, J. A.: Effect of Moccasin Snake Venom (*Agkistrodon piscivorus*) on Parturient and Puerperal Bleeding. *Am. J. Obst. & Gynec.*, 33:463, Mar., 1937.

15.—Watkins, C. H., and Thompson, G. J.: Results in Treatment of Essential Hematuria With Moccasin Venom. *Proc. Staff Meet., Mayo Clin.*, 12:200, Mar. 31, 1937.

16.—Swett, W. F.: Snake Venom: Its Use in Postoperative Hemorrhage of the Eye. *California & West. Med.*, 48:173, Mar., 1938.

17.—Kelly, R. J.: Treatment of Herpes Simplex With Moccasin Venom. *Arch. Dermat. & Syph.*, 38:599, Oct., 1938.

18.—Peck, S. M.: Pemphigus Treated With Moccasin Venom. *Arch. Dermat. & Syph.*, 33:150, Jan., 1936.

"SOAKING" THE RICH

It seems little recognized that all the "rich" can subtract from the total income is their personal expenditures. The rest of their possessions and all their incomes over rather moderate expenditures are put back into industry; that is to say, to the service of the whole population, increasing employment, encouraging invention and enterprise, and adding steadily to the per capita supply of "goods." It is difficult to offer definite proof, but my own belief is that the total amount represented by the personal expenditures of all of the "rich," say with incomes of ten thousand a year or over, would not amount to 4 percent of the national income. This is at least something like what it would mean if the entire "prodigal" expenditures of the rich were confiscated and distributed to the remaining population.—Dr. Carl Snyder, in Chicago Tribune, *Feb. 19, 1939.*

The Modern Treatment Of Varicose Veins *

By
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THE use of sclerosing solutions in the treatment of varicose veins has proved satisfactory. Ligation of the saphenous vein at the saphenofemoral junction, when indicated, increases the chance of permanent cure. In my own experience recurrences are becoming more infrequent because of proper selection and classification of the patients.

The internal (long) and the external (short) saphenous veins are the principal superficial veins of the lower extremity. Throughout their course these two veins receive numerous branches from the foot and the posterior and anterior surface of the leg and thigh. They have also many anastomotic branches connecting with the deep veins.

The internal saphenous vein is supplied with from ten to twenty valves. The column of blood must ascend against gravity. The valves in the saphenous vein help to break the pressure of the column of blood. There is a valve at the junction of the saphenous with the femoral vein. When this is incompetent, the whole force of the blood column in the iliacs and inferior vena cava is thrust upon the internal saphenous.

Contra-Indications

The indications for the injection treatment of varicose veins far exceed the contra-indications. If one is familiar with the contra-indications, the indications will be clearly understood. The chief contra-indications are:

1.—*Degenerative diseases:* Severe cardiovascular diseases, diabetes, nephritis, and hyperthyroidism.

2.—*Acute local or general infection:* The treatment should be postponed until the patient is free from such condition.

3.—*Chronic varicose ulcer:* The treatment should be postponed until the ulcer is healed or free from infection.

4.—*Severe arterial disease of the lower extremity.*

5.—*Pregnancy:* Experience has proved that a better result will be obtained if the treatment is postponed until a few weeks after the termination of pregnancy.

6.—*Phlebitis and thrombophlebitis:* A history of "milk leg" requires painstaking examination.

Injection treatment should not be given until patency of the deep veins has been demonstrated. To determine the condition of the deep veins, **Perthes' test** is used as follows:

1.—The patient assumes a standing position. To constrict the superficial veins, a thin rubber-tube tourniquet is tied tightly above the varicosity. If the dilated veins extend above the knee, the tourniquet is applied above the upper thigh.

2.—The patient is instructed to flex and extend the knee at least ten times or to walk back and forth ten times.

If the veins collapse during the exercise, the deep veins are patent and treatment is absolutely indicated.

If the distended superficial veins show no diminution, but become more turgid during the test, the deep veins are not patent and the treatment is absolutely contra-indicated.

Before the method of treatment is chosen the patient should be classified according to the result obtained with the **Trendelenburg test.** This test, a very important step, is made as follows:

With the patient in a reclining position on a table, the affected leg is elevated to a vertical position for two or three minutes, to empty the superficial veins. A tourniquet of thin rubber tubing is then tied around the middle of the thigh, tightly enough to compress the superficial veins; the leg is lowered; and the patient assumes the standing position.

If the veins remain empty or slowly become dilated by bloodflow from below, the test is negative. A negative Trendelenberg test indicates that the superficial veins are incompetent and that the injection of a sclerosing solution will produce satisfactory results. No ligation should be performed.

If the veins fill suddenly when the patient stands with the tourniquet still tightly on, the test is doubly positive. This indicates that there is a valvular insufficiency of the intercommunicating veins. Cases with this condition are most unsatisfactory for treatment.

If, when the tourniquet constriction around the thigh is released, the veins fill up suddenly from a column of backflow of blood from above downward, the test is positive. Such a test demonstrates that there is regurgitation of blood into the saphenous vein because of incompetency of the saphenofemoral valve. This condition is an absolute indication for high ligation in the saphenofemoral junction, to be followed by chemical obliteration.

Injection Technic

From 2 to 5 cc. of a 5-percent solution of sodium morrhuate or mono-ethanolamine oleate (Monolate) is injected at one sitting. Three or four segments may be obliterated at a time. It has been my custom to have the patient return for injection once a week, but I do not hesitate to postpone treatment for a week or longer if a severe local reaction is present from the previous injection.

In the majority of cases the injections are given with the patient in the upright position. It is important to inject the veins in a systematic way. For

*From the George W. Green Medical Library, and the Department of Surgery, Ravenswood Hospital.

the first injection a vein as low in the leg as possible is selected. After all the veins between the knee and the ankle are obliterated, the veins in the thigh are attacked.

The only instruments necessary for the injection treatment are a 26½- or 27-gage hypodermic needle and a glass syringe. The site to be injected is cleaned with an alcohol sponge. After introduction of the needle, the piston of the syringe is slightly withdrawn to determine whether the needle has entered the vein. If the needle is in the vein, blood will flow back into the syringe. If there is any doubt as to its position, it is removed and introduced into another segment. If the needle is always introduced into the vein before the injection is given, sloughing will never occur. After the injection, a small, folded, sterile sponge is applied on the punctured spot and held tightly with an adhesive strip about 1½ inches wide. The patient is instructed to remove this dressing at the end of from twenty-four to forty-eight hours.

A single positive Trendelenburg sign, or incompetency of the saphenofemoral valve, is an indication for ligation. The saphenous vein should always be ligated high, in the saphenofemoral junction. Any accessory veins present should also be ligated. When, as is true in quite a number of cases, the superficial circumflex iliac, superficial epigastric, or external pudendal veins empty into the upper end of the saphenous, instead of into the femoral vein, it is necessary to ligate them to prevent recurrence of varicosities through anastomosing vessels. When there is incompetency, not only of the valves of the saphenous vein, but also of the valves of the veins communicating between the deep and superficial systems of the thigh, an additional ligation at the lower level (middle of the thigh) is indicated.

Technic of Saphenous Ligation

The highest point for ligation (bulb) can be palpated by having the patient stand with his full weight on the affected leg. If there is difficulty in locating it, the patient is requested to cough or strain. This makes the bulb easily palpable, and its location is marked with a 2-percent solution of brilliant green. The patient is then put in the recumbent position and the field of operation is surgically prepared.

One-percent Novocain solution, with 3 drops of epinephrin to the ounce, is used for anesthesia. After infiltration of the anesthetic, I generally wait five minutes.

A transverse incision about 2 inches long is then made about 1 inch below Poupart's ligament, passing through the skin and subcutaneous tissue. The saphenous is buried in the fibrous and fatty superficial fascia, and just outside of the deep fascia. The superficial fascia is stripped bluntly with a curved hemostat, which is slowly opened and closed. The forceps are then worked under the vein and the blades opened slowly, to separate the vein from the posterior sheath. The vein is carefully stripped of fat and areolar tissue. Two ligatures of No. 1 chromic catgut are applied to both the distal and the proximal portions of the vein, ¼ inch apart, an island 1 inch wide being left between them. The island is then cut. Before putting the lowest tie on the distal portion of the vein, I inject 3 cc. of the sclerosing solution into it by peripheral puncture with a 27-gage needle. The last catgut tie is then made just below the puncture point. The branches and accessory veins are ligated with plain catgut. The wound should be dry before it is closed. The skin incision is approximated with three or four interrupted dermal sutures.

The wound is covered with heavy dressings, which are held snug with adhesive strips and a few turns of bandage. On the eighth day the stitches are removed and two adhesive bridge tapes are applied for another week. The injection treatment may follow as soon as the stitches are removed.

It is important to remember that walking, after ligation, is a safeguard against the formation of thrombi and emboli. Clamping of the veins with forceps should always be avoided, as it may injure the endothelium, thereby favoring the formation of a thrombus, especially in the proximal end.

The double-positive Trendelenburg test indicates valvular insufficiency of the intercommunicating veins. Patients in this group are most difficult to treat because, whatever is done, recurrences are apt to develop. They should be treated only by surgeons with a great deal of experience in this type of work. A given case may require multiple ligations and segmental excisions, followed by obliteration. About 2 percent of varicose vein cases treated by me have belonged to this group.

In conclusion the following points should be emphasized:

1.—Injection treatment should never be instituted until patency of the deep venous system has been demonstrated.

2.—When entrance of the needle into the vein is doubtful, the needle should be removed and introduced into another segment.

3.—Saphenous ligation should be performed when indicated. It is not a panacea for varicose veins.

4.—The patient should be kept ambulant after ligation.

ADULTHOOD AND THE FUTURE

There is no place (in the modern world) for half-baked adolescents, crammed with undigested learning, false standards, and incapacity to think and act for themselves . . . The future belongs to our children. The quicker they fit themselves for the responsibility, the more likely there is to be a future.—I. A. R. Wylie, *in* Harper's Magazine.

General Treatment in Tuberculosis

By
AMOS T. FISHER, M.D., Lakewood, Ohio

DURING many years of laboratory work, including hundreds of sputum examinations, I found that many patients admitted to the hospital had the clinical picture of tuberculosis, but often I made many smears before I could find the tubercle bacillus. In all of these, however, I found thousands upon thousands of pneumococci, streptococci, *B. catarrhalis,* tetrads, and others, even though I could find no more than three or four tubercle bacilli of which I could be sure. I marveled at the great army of enemies constantly present, whether there were few or many tubercle bacilli, and concluded that tuberculosis is not the simple disease it is commonly considered to be. In fact, I began to doubt that it had ever, *single-handed,* been the cause of death in any patient.

In the City Hospital of St. Louis, during the World's Fair in 1904, we did many autopsies and, in a great majority of them, we found fibrous masses in the lungs, in which we found tuberculosis germs. Often we cut through a hard, fibrous capsule the size of a walnut and found a small yellow mass, not bgiger than a grain of wheat, that was packed with tubercle bacilli, yet there was no other evidence of that disease in the body. This suggested to me that such a patient, having a healthy body with no accompanying infections, had walled up his tuberculosis so tightly that is was no longer a menace, and *would never be* unless some other condition, such as a secondary infection, tore down all resistance and set the tubercle bacilli free We know that practically 90 percent of apparently healthy people have now, or had at some time, a focus of tuberculosis infection in their lungs, which has been walled up in this way, so that they cannot now be classed as tuberculous.

These observations gave me the idea of treating tuberculosis by taking care of the patient as a laboratory and clinical picture of low vitality, whose blood picture is bad, showing anemia, malnutrition, and other abnormalities, the white blood cells being greatly increased, but so low in activity that they are like so many foreign bodies clogging the blood stream. The sputum has thousands upon thousands of streptococci, pneumococci, etc., which keep the system in a depressed condition and give the tubercle bacillus its best working conditions. The patient is sallow, emaciated, listless, with no appetite, and the "fighting" quality of his blood is practically nil. Here we have a system that apparently has "lain down on the job," and needs careful and vigorous treatment.

For over twenty years I have been "clearing up" tuberculosis in many cases, and here I give the history of three typical ones.

Case Reports

Case 1: Miss A. O., age 30 years; single; a domestic; weight, 110 pounds; height, 5 feet 10 inches, complained of an aggravating cough and was constipated. There were coarse râles in both lungs; her heart was normal; temperature, 97° F. The typical clinical picture, as given above, was present.

This patient came to me March 28, 1928, in a miserable state of mind, because she had been in this country for twelve years and, having learned that her mother was in poor health, wanted to return home, but was refused a passport and ticket because she was tuberculous (diagnosis made by the immigration authorities and a sanatorium).

My diagnosis was, mild pulmonary tuberculosis with general malnutrition and anemia. Every three to five days I gave her 1 cc. of a "respiratory" vaccine (Bio 635, Parke, Davis & Co.), subcutaneously, to a total of eleven doses. I also administered, at similar intervals, intravenously, one of the following solutions: (1) sodium salicylate, 10 grains (0.65 Gm.), alone or combined with 8 grains (0.51 Gm.) of methenamin, in 10 cc. of distilled water; iron cacodylate, 1 grain in a 5 cc. ampule; or sodium salicylate, 15 grains (1 Gm.), with calcium chloride, 5 grains (325 mg.), in 10 cc. of water, varying the solution from time to time, over a period of two months.

On the last day of May, 1928, she came in happy and "feeling fine," waving her passport and ticket for her return to Sweden. She had gained twenty pounds in weight and was the picture of health, showing no evidence whatever of tuberculosis.

I treated the *patient,* giving the treatment for the heavy mixed infection, and her system took care of the tubercle bacilli. I gave this patient, also, dilute hydrochloric acid, 10 drops in a half-glass of water after meals, and told her to eat sparingly of whatever mixed diet agreed with her, but to let all other foods alone.

Case 2: Mrs. M. B., age 53, a housewife, had pneumonia in 1920. Since then she has been subject to "colds" rather often. She came to me in May, 1937, with a light but annoying cough. She had been at a sanatorium, where her condition was diagnosed tuberculosis and she was advised to have her lungs collapsed and to remain for other treatments, which she refused.

I found râles in both lungs, and a careful examination confirmed the diagnosis. Anemia was quite marked and shortness of breath appeared on the slightest exertion. Her appetite was poor; temperature, subnormal; heart weak, but regular as to beat and rhythm.

I treated her from May 29 to December 17, 1937, giving her a "respiratory" vaccine (Bio 635) for ten weekly doses, and a solution to take by mouth, containing benzoic acid, 10 Gm.; alcohol (95%), 90 cc.; dilute hydrochloric acid, U. S. P., to make 120 cc. The dose was 10 drops after meals, in a glass of distilled water.

In October I added *B. coli* to the vaccine, because of some intestinal difficulty, and gave her, once a week, intravenously, sodium salicylate and calcium chloride, 7 grains (0.5 Gm.) of each, in 10 cc. of distilled water, for a month; then iron cacodylate, 1 grain, with sodium glycerophosphate, 6 cc. for three doses; then Metaphen, 1:1000, 8 cc. for three doses. On Dec. 17 I dismissed her, free from all evidence of tuberculosis and feeling fine.

On January 8, 1938, she called me to report that

she had a large, tender lump on the left side of her neck, which proved to be due to an infected wisdom tooth and soon cleared up under appropriate treatment. Then she took a course of Oravax (Merrill) and calcium sulphide. She saw me in July, 1938, feeling fine, with no evidence of tuberculosis whatsoever. Again, on Nov. 4, she came in, feeling fine. Her lungs were both clear.

Case 3: Mr. K. K., age 24, a clerk in a bus office, was in a sanatorium for two months in the summer of 1937. He had never been seriously sick otherwise, but had lost a good deal of weight during the past year, and was too weak to undergo lung collapsing, so he was given a phrenicectomy operation.

He came to me on February 3, 1938, with a slight cough, especially in the morning, and not much expectoration; râles in both lungs, involving both upper lobes; easy fatigability; a blood picture which was poor, but not so anemic as Cases 1 and 2; blood pressure, normal; heart, rapid but regular; temperature, slightly subnormal. The sanatorium diagnosis—and mine—was tuberculosis.

From February 3 to April 23 I gave him Bio 635 (P.D. & Co.) and alternated hydrochloric acid, 1:1000, 6 to 8 cc. at each dose, with Metaphen, 1:1000, 5 to 8 cc. doses; giving three or four doses of one then three or four of the other, intravenously. By mouth, I gave the hydrochloric acid prescription, as in Case 2, twice daily, and Navitol-malt compound once daily. His diet consisted of whatever agreed with him, in moderate amounts.

The sanatorium doctors had advised that he do no work at all, but I recommended that he get some light outside job which would not overwork him, but would give him something to occupy his mind. Work was hard to get, but after two months of treatment his former employer told him he would have to be examined and fill out one of the State Industrial blanks before he could get work. He was sent to one of the best chest specialists in Canton, who reported that he could find no symptoms of tuberculosis (examination made April 13, 1938). I had also told the patient that his lungs were clear and that I would give him a rest from treatment for a month.

On June 8 he returned, and his lungs were still clear except for a slight roughness in the upper left lobe. One of the sanatorium staff had examined him during this month of rest and told him he had a large cavity in the left lung, so he went to the Canton specialist again and was told that there was still no evidence of tuberculosis. To pacify him I gave him three doses of the hydrochloric acid and three of the Metaphen, intravenously, and six doses of the Bio 635. I then dismissed him as "cured," with the information that he would always have scar tissue in the left lung, but that should not worry him nor cause any capable physician to tell him that he still had tuberculosis. His last visit was on October 22, when he was feeling fine, had no râles in either lung, and showed a ruddiness seldom seen in such cases.

Out of all my cases I have selected these three because most physicians I have tried to tell about this treatment say, rather dubiously, "Maybe the patient did not have tuberculosis," or give some excuse that would discredit the method. So now I say, if the authorities I have quoted say a patient has tuberculosis, and I find the same thing, I feel that the diagnosis is established. Then, after I have given my treatment, and the same authorities, or others, say that there is no tuberculosis, I can see no reason why my conclusions should be questioned.

THE SHORT DAY OF SCIENCE

Our life today differs from that of our grandfathers much more than did theirs from the life of 2000 years before. To dramatize the recent increase in the rate of scientific progress, let us compress the time scale a millionfold. This means that a year ago the first men learned to use certain odd-shaped sticks and stones as tools and weapons. Speech appeared. Then, only last week, someone developed the art of skillfully shaping stones to meet his needs. Day before yesterday man was sufficiently an artist to use simplified pictures as symbolic writing. Yesterday the alphabet was introduced. Bronze was the metal most used. Yesterday afternoon the Greeks were developing their brilliant art and science. Last midnight Rome fell, hiding for several hours the values of civilized life. Galileo observed his falling bodies at 8:15 this morning. By 10 o'clock the first practical steam engine was being built. At 11 Faraday's law of electromagnetism was developed, which by 11:30 had given us the telegraph, electric power, the telephone, and incandescent electric light. At 11:40 x-rays were discovered by Roentgen, followed quickly by radium and wireless telegraphy. Only 15 minutes ago the automobile came into general use. Air mail has been carried for hardly five minutes. And not until a minute ago have we had world-wide broadcasts by short wave radio.—ARTHUR H. COMPTON, *in* Science.

PETTINESS

Pettiness is always the soul's corrupter. Let a man make it his habit to refuse pettiness day by day and to choose robustly, and he can, little by little, develop a soul which shall at last become equal to anything.—WINIFRED RHOADES, *in* The Forum.

Physical and Office Therapy and Radiology

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Uses of "Cold Quartz" Radiation

By

GEORGE MARCHMONT-ROBINSON, Sc.B., M.D., Chicago, Ill.

FOR THE purpose of this article, when "cold quartz" therapy is referred to, I am speaking of the administration of ultraviolet rays having their greatest concentration at 2357 Angstrom units (the A. U. is one tenmillionth of a millimeter).

In my hands, these radiations have a bactericidal, biochemical action, regenerative in healing by a forced stimulation of normal tissue elements, and an alterative action in deficiency diseases. A technical description of this agency may be found in the publications of The Council of Physical Therapy of the A. M. A. and in the articles by Hibben and Beckett[1] and Albert Bachem[2].

The bactericidal action has been demonstrated by many laboratory tests, but warning is given that bacteriophage is inactivated by the ultraviolet rays[3], therefore the administration of the one contraindicates the other. Clinically, this bactericidal action is clearly shown in cases of erysipelas, Vincent's angina, streptococcic sore throat, osteomyelitis, impetigo contagiosa, otitis media, and many other acute conditions, which will show a dramatic response to even one treatment, properly administered.

This agency is also useful in some chronic conditions, such as chronic otitis media, chronic mastoiditis, ruptured membrana tympani, chronic sinusitis, sinus bronchitis, hay fever, and bronchial asthma (the socalled allergic conditions). The allergy, however, in my observation, is the spark which ignites the tinder, the ensuing conflagration being extremely annoying to the patient. I say this because every case of hay fever displayed, on careful examination, pathoses of the sinuses or turbinates or both, with adhesions between the inferior turbinates and the palate, usually at the junction of the hard and soft palates. These adhesions are, I believe, the result of thumb sucking in infancy, as high palates are the rule in hay fever patients, and it is easy to understand that a negative (sucking) pressure, plus an obstacle (the thumb), acting on soft, ununited bones that are readily displaced upwards, may cause juxtaposition of the turbinates and palate, with resultant adhesion formation. In diagnosing this particular condition, one should always use reflex transillumination over the soft palate.

The sphenoidal infections exhibit pain above the ears, radiating to the orbits; droppings from the nasopharynx to the throat; and no discharge from the nares. X-Ray examination is valuable in this cryptic condition and will also prove helpful in aiding the diagnosis of sinus bronchitis and the later development, bronchial asthma. This latter condition, however, requires differentiation, because of similar symptoms due to kidney, liver, or cardiac disease; but when the asthma is idiopathic, examination of the sinuses will always disclose abnormal conditions.

It is impossible to treat the sinuses except under general anesthesia, and in my hands Evipal Sodium, given intravenously, is excellent, showing no unpleasant sequelae, no interference with the field of operation, no increase in the pulse, temperature, or respirations, and producing a beautiful surgical anesthesia.

I have named the operation I use "cold-quartz turbinectomy," because the engorged turbinates shrink to normal, squeezing out the mucus and blood as rapidly as the applicator strokes over them. It is really remarkable to see the thickened, injected turbinates shrink during the operation.

The hemorrhage encountered as the turbinates

1.—Hibben, J. S., and Beckett, J. S.: *Phys. Therapy*. Vol. XIV, pp. 354-359, June, 1933.
2.—Bachem, Albert: *Arch. Phys. Therapy*. Vol. XIII, pp. 614-619, Oct., 1932.
3.—Fisher and McKinley: *J. Infect. Dis.*, 40, 399, 1927.

shrink and adhesions are severed, especially between the inferior turbinates and the palate, is about the same as that occurring in adenoidectomy and tonsillectomy.

Technic of a "Cold-Quartz Turbinectomy"

The irradiation of the sinuses is begun by a sweeping motion of the applicator (the one I use is 4¼ inches long; eliptic in cross-section; 12 mm. in

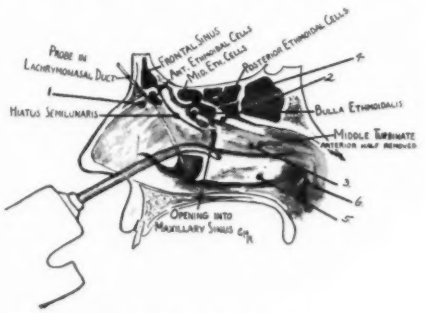

Fig. 1:—Outer Wall of Nose and Accessory Cavities (After Davis "Applied Anatomy").
1.—Frontal sinus and cribriform plate (ethmoidal cells); point of treatment.
2.—Superior turbinate.
3.—Middle turbinate and ostium to antrum of Highmore.
4.—Sphenoidal sinus.
5.—Inferior turbinate, adhesions (turbino-palatal).
6.—Eustachian tube.

diameter at the base or shank and 4 mm. at the tip) over the superior turbinate and, as resistance is lessened, holding the applicator against the cribriform plate (ethmoid cells) for 30 seconds. Then, by the same sweeping motion, shrink the middle turbinate, turning the applicator through the meatus into the antrum of Highmore and holding it there for 30 seconds. Repeat the sweep over the inferior turbinate, passing it slowly backward until the nasopharynx is reached; turning the point downward and laterad into the eustachian tube and irradiating it for 10 seconds; then turning the applicator upward and mediad to the vault of the nasopharynx to irradiate the sphenoid, and holding it there for 30 seconds. Repeat this on the other side. It is surprising how many abscesses one will encounter in the nasopharynx, but they will rupture. blood and pus being expelled, which will require the aspirator to be used.

After Care: The patient is permitted to go home in a few hours and is to report at the doctor's office daily for two weeks. The patient presenting himself for each daily after-treatment receives a thorough spraying of oil, both through the nares and, by a reflex atomizer, over the soft palate, using 35 pounds pressure of compressed air (hand atomizers are worthless for this purpose). Then the patient reports two or three times weekly for a spraying, until healing is complete—usually from one to three months. The oil may be any of the usual nasal solutions, such as Chloretone inhalant, Benzedrine solution (diluted 1:2 in liquid petrolatum), Vaporole solution, or such as I use—a one-percent solution each of camphor and menthol in light liquid petrolatum.

The discharge is mucopurulent for varying periods, caused by the sloughing of the thickened, diseased membranes lining the sinuses, and, as regeneration takes place, the discharge thins, becomes watery, and finally ceases.

My records (hospital and office) show a gratifying percentage of clinical cures during the past five years, my failures occurring only in patients below fourteen years of age, and they show alleviation of suffering which possibly justifies the operation; but in no case of children submitting to the operation have I been able to establish a clinical cure. In adults the percentage is high—above 90 percent—the followup questionnaires revealing no recurrence of hay fever, sinusitis, or asthma, in many of them, and in two cases they have been symptom-free for the past eight years. One of these gave a history of asthma for over twenty years.

The foregoing is merely an effort to establish the worthiness of the procedure and is promulgated with the hope that surgeons will find it worthwhile to perform this relatively simple operation properly, remembering that the results can be evaluated clinically and by x-ray studies, but not by sensitization tests. In other words, the patients react to allergy tests the same as before, but they are symptom-free and remain so.

Otitis

For "running" ears the treatment is directed to the cause, and a differential diagnosis must be made between foreign bodies in the meatus, diphtheria, syphilis, infestation (usually maggots), otitis media (history of exanthems, rhinitis, pharyngitis, sinusitis, paracentesis), faulty hygiene of the nose, infections or eczema of the cartilaginous portion of the canal, etc., any of which conditions may cause a discharging ear.

Chronic mastoiditis usually shows thin, mucopurlent pus exuding from the meatus, a history of a running ear for years past, and deafness on the affected side. On examination, after swabbing the meatus, one usually sees the hole extending upwards and backwards through the antrum, with obliteration of the membrana tympani, excepting a thin band marking the junction of Shrapnell's membrane *(membrana flaccida)* and the *membrana vibrans,* this band being attached to the ossicles. Cholesteatoma may be present, but fortunately is only of prognostic significance.

For ruptured ear drums, there is a change of technic. In this case, a diagnosis being established, careful swabbing ought to bring the tympanic membrane into view, through the otoscope, where the rupture will be apparent. Acute mastoiditis will present the characteristic pulse, temperature, and respiration curve; pain, tenderness, redness, and swelling over the mastoid process; forward displacement of the pinna; and the typical facies and history.

In acute otitis media with a bulging drum, paracentesis is usually unnecessary, treatment being the same as for ruptured membrana tympani, with recession and absorption occurring in two or three days. If results are not as expected, incise the drum *in 24 hours;* then treat the case as one of ruptured membrana tympani.

Treatment: Establish the diagnosis; cleanse the ear with dry swabs; fill the ear with a 1:1000 sodium-eosin solution, being careful to expel the

bubble, the head being held to the opposite side so that the affected ear is superior; place the applicator in the fluid which, being translucent and fluorescent, carries the rays to parts inaccessible to the applicator; and hold the applicator in place for one minute; place a large pledget of cotton in the ear, and the operation is finished. The patient reports for examination every third day. No douching is permitted.

Healing takes place by a ring of inflammatory tissue about the aperture in the drum; then a thin, apparently mucoid membrane appears over the hole or holes; this gradually thickens until the entire drum gives the characteristic pearl-like appearance. Let the membrane harden for one week, then start careful vibratory massage, and the drum will loosen and vibrate to sound, the hearing being reestablished. The elapsed time between the irradiation and the finished working membrane is about fifteen days. In no case of ruptured ear drum or loss of the drum, accompanied by nerve deafness (as established by the audiometer), have I been able to restore hearing, but the procedure is justifiable in order to close a possible atrium of infection to the mastoid, meninges, and brain.

Chronic mastoiditis requires several treatments, of thirty seconds each, at intervals of three or four days, depending on the discharge, which gradually becomes less purulent, thin and watery, and finally ceases, at which time the ruptured ear drum will heal, to be further treated as in cases of ruptured membrana tympani. Quicker and safer results would be obtained by a mastoidectomy followed by irradiation, so irradiation alone should be reserved for poor surgical risks or cases considered safe (long duration), where the patient cannot afford the necessary time, hospitalization, etc.

In Dentistry

Another use of the orificial applicator is for that bane of the dentist's life, the dry socket. This condition is due to failure of proliferation of the vasa vasorum, due to absence of clotting. No preparation is necessary or desirable. Simply place the applicator in the affected socket, stroking the sides, and suddenly a clot appears, first as slight active bleeding, which coagulates, forming a firm clot. Healing rapidly ensues, taking from three to five days.

Blind abscesses of the gums resolve after three or four minutes' treatment with the orificial applicator, pain disappearing immediately.

Other Conditions

In **osteomyelitis,** after the usual procedure of incision, curettage, etc., irradiation of the medulla will produce a clot filling the cavity, which may then be closed, healing of both the osseous and soft tissues taking place by first intention. A better procedure, in early cases, would be radiothermy, without incision or drainage, but radiothermy is a story in itself.

In acute conditions, such as **streptococcic sore throat,** application of the cold-quartz applicator for three minutes, first on the right, and again for three minutes to the left side of the uvula, will produce a copious discharge of glairy exudate characteristic of the streptococcus, and resolution will take place. The angry, bright-purplish redness disappears; the temperature recedes; pain is abolished during the treatment. The only complaint or observation by the patient is of the metallic taste, which persists for about six hours. The temperature and pulse are normal next day.

The treatment of *Vincent's angina* is the same, excepting that the applicator is used bare (no tongue sleeve) and the gums, buccal and lingual, are also irradiated.

General Treatments

The socalled "body grid," using the same wavelength, has clearly demonstrated all the attributes of the orificial burner, with the further advantage of covering a larger area. The biochemical reaction is evident in the conversion of ergosterols present in the living cells to vitamin D, thus playing a very important part in the cure of rachitis, and also in the disturbed calcium-magnesium balance present in infantile convulsions. One six-minute treatment over the entire body suffices to fix the calcium, thereby lessening the irritability of the central nervous system, and the convulsions cease. The only return of convulsions I have ever seen were in the prodromal symptoms (fortunately rare) of measles.

In *pulmonary tuberculosis,* a similar fixation of connective tissues and calcium is noted, together with an improved blood and hemoglobin index. This latter may be partly due to the inhalation of ozone (O_3), which is formed by the conversion of the oxygen present in the atmosphere by the mercury arc which energizes the applicators.

In **erysipelas,** I use the body grid, irradiating one inch beyond the lesion all around, with the burner 12 inches from the skin and a ten-minute exposure. No case has required more than two treatments. This is a blistering dose, but desquamation occurs readily, persists for three or four days, and the temperature is usually normal the day following the first treatment. None of my patients has died.

Further clinical uses for this type of treatment will undoubtedly be found, which will bear the closest investigation and will redound to the credit of the up-to-date surgeon who will honestly use this important therapeutic agency, as it appears that any bacterial infection, such as bronchitis, rhinitis, endocervicitis, vaginitis, urethritis, etc., should be amenable to this form of treatment. In order to achieve success, however, it is essential that the surgeon really learn to use the instrument, as he alone can determine when or where it should be used.

The medical profession must not leave this important method to the quack and charlatan, but must develop it by honest endeavor, built on the true foundation of anatomy, physiology, pathology, and surgical technic, so that it may be recognized and accepted as producing results transcending those possible by our former methods.

25 E. Washington St.

PRIVATE PROPERTY RIGHTS

It must be obvious to every thinking person that the RIGHT *of the man who may have attained considerable property cannot be destroyed without, at the same time, destroying the* RIGHT *of the man who merely owns a humble cottage in some obscure village, and destroying the* RIGHT *of every individual ever to acquire property.*—FRED R. MARVIN.

★ Notes and Abstracts ★

Subluxations of the Phalanges

MINOR displacements (subluxations) of the phalanges are usually produced by falls, blows, or stubbing. The symptoms resemble those of a sprain, but instead of subsiding fairly quickly, they either do so very slowly or not at all. The patient is left with persistent discomfort or pain, both of which are aggravated by movement; limitation of active and passive movement; and occasionally grating noises in the joint.

Signs of displacement are: (1) Abrupt limitation of a movement when one passively moves the finger; (2) passive movement induces or aggravates pain, when made in one direction, and relieves it when made in the opposite direction; and (3) bony deformity is present, and one or more edges of the proximal bone will be too prominent.

Treatment: Grasp the bones above and below the affected joint and pull in opposite directions. If the bone does not slip into place with an articular sound, move it toward the side of the finger opposite the deformity.—E. CYRIAX, M.D., in *Br. J. Phys. Med.*, Jan., 1939.

Heat Therapy*

HEAT, applied as infrared, luminous heat, conventional diathermy, or short-wave therapy, is well established as a means of producing an active hyperemia, either as a surface counterirritation or by the heating of the more deeply situated tissues.

Mild applications of heat are sedative and produce relaxation of the tissues. Active hyperemia increases the circulatory exchange and hastens the absorption of infiltration and exudates. Local cell metabolism is increased. Tissue repair is facilitated. Defense mechanisms are speeded up. Locally there is vasodilatation and increased sweating of the skin, and an increased secretion of the mucosa of the orificial cavities. This increased secretion, together with the increased flow of blood, may produce a local cooling effect of the inflamed tissues.

The application of heat, either infrared or luminous, has long been recognized as a method of relieving the discomfort and congestion associated with the common head cold. Exposures of thirty minutes or longer, frequently repeated, are recommended in the treatment of acute sinusitis associated with coryza.

In view of the economic loss sustained by individuals subject to frequent colds, we feel that any method which offers a means of reducing the loss of time and diminishing the severity of symptoms is worthy of further trial.

HERMAN A. OSGOOD, M.D.

Boston, Mass.

Med. Record, July 6, 1938.

Passive Hyperemia in Peripheral Vascular Disease

PASSIVE or venous hyperemia, induced by the application of a sphygmomanometer cuff at pressures of from 20 to 60 mm., is of value in treating nonhealing lesions on the legs and feet, in those individuals whose peripheral arteries are narrow. The treatment may be kept up for periods ranging from 2 to 22 hours daily.—KARL HARPRUDER, M.D., in *Arch. Phys. Ther.*, Jan., 1939.

Look for THE LEISURE HOUR among the advertising pages at the back.

★ Books ★

Neuroradiology

Wakeley and Orley

A TEXTBOOK OF NEURORADIOLOGY. *By* CECIL P. G. WAKELEY, D.Sc., F.R.C.S., F.R.S.E., F.A.C.S., F.R.A.C.S. (Hon.); *Fellow of King's College, London; Senior Surgeon, King's College Hospital and West End Hospital for Nervous Diseases; Hunterian Professor, Royal College of Sugeons of England; etc.; and* ALEXANDER ORLEY, M.D., D.M.R.E., *Fellow of the British Association of Radiologists; Radiologist, West End Hospital for Nervous Diseases; etc. Baltimore: William Wood and Company.* 1938. *Price*, $8.00.

THIS is the only book of its kind in the world, so far as we are aware. Here one may find, gathered together, all the worthwhile knowledge that has been painfully acquired by workers in neurology, neuro-surgery, and radiology, concerning the diagnosis of diseases of the brain, spinal cord, and skull by means of roentgen rays.

Today we can learn much more from a plain radiograph than we could a few years ago, and through specialized and exacting technics of ventriculography, arteriography, and encephalography, central-nervous-system lesions can be diagnosed and localized with amazing precision.

Fractures of the skull are well and briefly discussed. "Radiographic examination is of paramount importance in such cases, not only after the injury, but at a later date for the diagnosis of sequelae, some of which are amenable to surgical treatment."

Complete technics for carrying out the various methods involved in skull, brain, and spinal cord roentgenography are described and illustrated. The various lesions of the brain are discussed and their radiologic appearances depicted in clearly reproduced illustrations.

★ News ★

Radium Number

THE March, 1939, issue of the *Mississippi Valley Medical Journal* will be a special "Radium Number" and will contain ten original articles by well-known American radiologists, dealing with various phases of this subject. Better subscribe now, or write to the Journal, 209-224 W. C. U. Bldg., Quincy, Ill., for further particulars.

A Living for the Doctor

The Business of Medicine and the Art of Living

✶

Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

A Hospital Goes to the People

HEALTH and highways go hand in hand.

No one knows that better than Dr. Charles Ainslie, medical director of the Hospital Americano, in Guatemala City. In 1931 General Jorge Ubico took office as president and began building roads over which an automobile could travel. In 1932 Dr. Ainslie packed his ambulance with instruments and worm medicine and took to the highway. He has been going ever since.

Colonel Carlos Cipriani, "The handsomest Jefe Politico in Guatemala."

Four times a year the ambulating clinic goes out to sections of Guatemala where there is no doctor; and in the whole country a dentist is almost as rare as hen's teeth. This year the clinic traveled to El Rancho, on the desert; to Momostenango, in the highlands; to Coatepeque, in the malaria-ridden country of the Pacific coast. The fourth trip will be made to the Alta Vera Paz when the automobile road connecting the capital city with Coban is opened.

Always the doctor in charge of the ambulating clinic travels with a letter from the chief of the national police. In the beginning the clinic was not whole-heartedly received by the Indians, who believed that its instruments and syringe needle were the works of the devil. For the most part government officials are friendly, even going so far as did Colonel Carlos Cipriani, jefe politico (governor) of the department of Totonicapan, to invite the clinic into his territory.

The experience of the clinic at Momostenango, in Totonicapan in March, 1938, is typical of all. As soon as the ambulance arrived, clinic doors were opened in an adobe house on Main Street. The first day 42 patients from the town, *ladinos* (those who have abandoned Indian dress and custom), sat waiting. Assisted by a graduate nurse, Dr. Joaquin Cipriani, in charge of the clinic, gave examinations and prescribed treatment in his temporary consultation room; on the *patio*, Mrs. Besse M. Nurminger, director of the hospital nursing service, gave injections and administered medicine; while a student nurse sterilized instruments over an improvised charcoal stove, made of a discarded gasoline can.

The third day of the clinic was market day in Momostenango. As the Indians went by with their loads on their backs, they peeked into the doors and windows of the hospital waiting room. They gossiped in the market-place that a few Indians had been treated in the clinic, and were kindly re-

ceived. There was an Indian interpreter who spoke Quiche, who could tell the doctor what was wrong with them. What a blessing for the women, who spoke less Spanish than the men! As a final precaution they asked Don Ernesto Lang, university trained German storekeeper of the town, described in the popular guide-books as the friend of the Indian, if it was safe to try the new medicine man. Reassured, they came in droves, always

Nurse sterilizing instruments over a charcoal brazier made from a gasoline can.

squatting on the floor to await their turn. Only *ladinos* use chairs.

Poverty is the rule and not the exception in Guatemala. The Hospital Americano, which is one of the few self-supporting American hospitals, finances the ambulating clinic work out of hospital income. However, a charge of ten cents is usually made for a consultation or a tooth extraction. It is believed that, if the patient has something to pay, he is more likely to take his medicine. Many cannot pay this nominal fee. Payment is then made in kind. One Indian brings a few beans, another *tortillas,* or ground wheat for *atole.*

When word spread that Dr. Cipriani could pull teeth, the dentist's chair was never vacant. Newspapers and radios are rare in Guatemala, but news travels fast. From a town 30 miles away, seven patients arrived to have teeth extracted. From a mountain hamlet, where a white face is seldom seen, Indians trudged a day's journey to get rid of aching teeth.

And many of them had aching teeth. Momostenango is in a section where the soil is eroding. Only black sheep are raised, and a cow or green vegetables are almost unknown. The *ladino* living in the town, subsisted on a diet of black beans, *tortillas* made from ground corn, and black coffee sweetened with native brown sugar, called *panela.* Occasionally he might have an orange or banana. All were lacking in calcium, which was administered intravenously. The Indian, who had a little land, was slightly better off. He might have a few chickens, which furnished eggs, or a few *wicoys,* for green vegetables. At least the Indians had better teeth.

Parents brought their children to have their first teeth pulled—mere shells left in the mouth. Then they themselves sat down in the chair to have their stubs of teeth extracted. One day's "pull" reached a high of 65 teeth; and in the two weeks of the clinic, Dr. Cipriani extracted more than 300 teeth.

Patients, who had suffered some complaint for years, but had never seen a doctor, came for relief. A 40-day-old baby, who had hiccoughed since birth, was brought by a desperate mother. A child with a deep abscess in her leg was carried on the back of her father, to have it cut and drained.

One man with an unsightly tumor on his face was operated on in the consultation room. "Your wife will love you now," said Dr. Cipriani as the patient held up a mirror to see if it was really off.

A patient suffering from tuberculosis, who had been treated in Malacatancita by the ambulating

Ambulance parked in front of a temporary clinic. Its radio attracted crowds.

clinic several years before, traveled the distance from that town in order to receive aid. In a country where there are no sanitoriums, the treatment of these cases presents a problem.

Nor was the doctor's work confined to the clinic. Early one morning he was called to the home of a woman, reputed by relatives to be dying. He found her suffering from asthma, for which he administered injections of epinephrin. The patient, as if by a miracle to those around her, rose from her bed and walked to the clinic thereafter.

Day by day the work expanded until, in 12 days, Dr. Cipriani had examined over 600 patients. Patients came daily for injections against anemia, malaria, and colds, for which Mrs. Nurminger gave nearly 900 injections.

Grateful patients sometimes remember. The last day the clinic was in Momostenango, the town committee, headed by the *intendente* (mayor), came to present certificates of appreciation and flowers to the doctor and nurses. Mrs. Nurminger looked down at the gaping mouths with their vacant spaces, where teeth had been. "If you cannot come to the hospital," she said, "then the hospital must come to you."

ALMA GRACE HAMILTON

Newark, N. J.

★ Notes and Abstracts ★

The Doctor at the Crossroads*

THERE are people who have no medical care; there are people who do not seek medical care; there are those who object to medical care; and there are sick people who do not know how to find medical care. These people must be surrounded by the protecting arms of the Public Health Service.

Postgraduate education is offered to the physician at teaching centers, and is also carried to him in the country, in the belief that *his education must go on as long as he lives*, not only in the interest of sick individuals, but also in the interest of every citizen of the country.

The fact that most of the 110,000 members of the A.M.A. are trying to take care of sick people does not absolve them from the valid charge that they are failing to take an active interest in broader fields of medical service.

How can this interest be stimulated? How many physicians are informed about the progressive work of their delegates at the recent special session in Chicago? How many have read the minutes published in the *Journal of the American Medical Association* of September 24, 1938? How many physicians read anything in their journals besides the articles which discuss the special problems which confront them in their daily practice? How many physicians read their journals at all?

NATHAN B. VAN ETTEN, M.D.

New York City.

The Drive of Discontent

HE NEVER knew what it was to play, but labored in his clinics and private practise eighteen hours a day. Until he was 53 years old, he hardly made his expenses. He suffered privations so that he could journey to distant medical meetings. Three times during his life he suffered from pulmonary tuberculosis and had to go to bed for long periods of time. But even while in bed, he was not idle. He found he could do no end of writing while taking a rest cure.

Now a gentleman in his seventies, he can sit back, secure in the knowledge that he has been a true medical pioneer, that he has carved for himself a niche among the immortals in medical history.—"The Life of Chevalier Jackson," in *Am. J. Surg.*, Aug., 1938.

[This picture does not show the most interesting point of all; why he had such a tremendous desire for work, for success, for fame. One may formulate a tentative axiom: The man who is comfortable and self-assured rarely or never attains high renown, although he may do much good.—ED.]

*Read before the Kings County (N. Y.) Medical Society, Nov. 15, 1938.

Physician or Researcher

FEW great scientists have been outstanding physicians. Harvey, who described the circulation of the blood, was a poor therapeutist; Koch, to whom we largely owe the conception of the bacterial cause of disease, gave up practice; Pasteur was not even a physician.

Formerly, the students in our schools were trained to be socially beneficial. Now they are trained, too often, with the apparent intention of making laboratory investigators out of them. Today, we train, too often, not *physicians*, with all the social significance of the term, but instead, bedside pathologists.

Preclinical subjects should be premedical, and should not be taught by physicians, but by Doctors of Philosophy.—HOWARD W. HAGGARD, M.D., in *Minn. Med.*, Oct., 1938.

Perennial Youth

FOR those who doubt that "life begins at forty," here are some examples, sent to us from an unknown source, which prove that life often begins at *seventy*:

Kant, at 74, wrote his "Anthropology," "Metaphysics of Ethics" and "Strife of the Faculties."

Tintoretto, at 74, painted the vast "Paradise," a canvas 74 by 80 feet.

Verdi, at 74, produced his masterpiece, "Othello"; at 80, "Falstaff"; and at 85 the famous "Ave Maria," "Stabat Mater" and "Te Deum."

Lamarck, at 78, completed his great zoological work, "The Natural History of the Invertebrates."

Oliver Wendell Holmes, at 79, wrote "Over the Teacups."

Goethe, at 80, completed "Faust."

Tennyson, at 83, wrote "Crossing the Bar."

When we get discouraged with our lot, this gives us something to think about. There is still time for all of us to achieve something worthwhile.—*Patchwork*.

Massengill Fined $16,800

SAMUAL EVANS MASSENGILL drew a record fine of $16,800 after he pleaded guilty to charges growing out of seventy deaths blamed on an elixir of sulfanilamide, at Greenville, Tennessee. Federal Judge Taylor imposed the penalty after Massengill, a drug manufacturer of Bristol, Tennessee entered

a plea of guilty on 112 of the 166 counts charging violation of the Pure Foods and Drug Act.—*N. Y. S. J. M.*, Nov. 15, 1938.

Use our reader service department "Send for This Literature."

The Surgeon

SURGERY is not only a matter of operating skillfully. It must engage in its service qualities of mind and of heart that raise it to the very highest pinnacle of human endeavor. A patient can offer you no higher tribute than to entrust you with his life and his health, and by implication, with the happiness of all his family. To be worthy of this trust we must submit, for a lifetime, to the constant discipline of unwearied effort in the search of knowledge, and of most reverent devotion to every detail in every operation that we perform.—LORD MOYNIHAN.

Prenatal Examination Laws

THREE states have now enacted laws which require physicians and midwives to make or cause to be made a Wassermann test on every pregnant woman who comes to them for prenatal care. These states are New York, New Jersey, and Rhode Island.

New York: The New York law, popularly known as the "baby health bill," was approved on March 16, 1938, and came into effect on January 1, 1939. It was the first law of this type to be enacted anywhere. It provides for a serologic blood test for syphilis to be taken or caused to be taken on every pregnant women at the time of her first visit to the physician or midwife. The blood must be taken, in each case, by a licensed physician and submitted to an approved laboratory. The date the test was made, or the reasons for failure to make one, must be stated on the stillbirth or birth certificate by the physician or midwife attending the patient, but the result of the test need not be recorded.

New Jersey: The New Jersey "act to prevent congenital syphilis" was passed in 1938, and also went into effect on January 1, 1939. It requires that every physician attending a pregnant woman for conditions relating to her pregnancy shall "take or cause to be taken a sample of the blood of such woman at the time of first examination, and shall submit such sample to an approved laboratory for a standard serologic test for syphilis." The blood samples must be taken by a licensed physician and the tests are to be made without charge at the Department of Health upon request.

Rhode Island: The Rhode Island act dealing with prenatal blood tests reads:

"It shall be the duty of every physician engaged in prenatal attendance upon a pregnant woman to obtain a blood specimen of said pregnant woman within thirty days after the first professional visit. Said blood specimen shall be submitted to the laboratory of the State Department of Public Health, or to a laboratory approved by said department, for the performance of a Wassermann or other standard laboratory blood test for syphilis. Any violation of the provisions of this section shall constitute a misdemeanor and said physician shall be fined not less than ten dollars nor more than one hundred dollars for each offense."

It will be noted that the Rhode Island law does not cover midwives, nor does it require that the blood specimen be taken at the first visit of the patient to the physician, as the New York and New Jersey laws do. On the other hand, it provides a penalty for failure to take a prenatal blood test, which the other laws do not. —*Journ. of Contraception*, Feb., 1939.

[Wise physicians will always make this test, even if not yet required by law to do so.—ED.]

The Rosicrucians

Hall

CODEX ROSAE CRUCIS. A Rare and Curious Manuscript of Rosicrucian Interest, Now Published for the First Time in Its Original Form. *Introduction and Commentary by* MANLY HALL. *Numerous Illustrations From Early Books and Manuscripts of the Order. Los Angeles: The Philosophers Press.* 1938. *Price*, $10.00.

EVEN those who have been merely dabblers in occult philosophy and symbolic metaphysics are probably familiar with Rosicrucianism, at least by name, for many of its present proponents are decidedly active in gaining adherents—at a price. In fact most of the groups now using that name are, at best, more or less spurious and superficial, and at worst descend to the level of the strictly commercial "health, wealth, and fame" mongers.

There seems to be small doubt that there actually was, in ancient Egypt and other Eastern countries, a group of adepts in the occult arts and sciences, who used in their treatises and instructions some of the symbols now employed by the modern Rosicrucians; but there is no valid evidence that any of the sects or brotherhoods now using that name have any connection with these ancient adepts or any true conception of their teachings.

In this magnificent volume of 113 folio pages (10x14 inches), printed in two colors and with two full-color plates, several half-tone plates, and many line drawings and engravings in the text, Mr. Hall, who is the outstanding living authority on the various systems of occult philosophy, has made what appears to be the most important contribution to the history and philosophy of the Rosicrucians now available.

Several chapters (51 pages) are devoted to a masterly critical analysis of the older Rosicrucian source-books; following which he presents, for the first time, a reproduction of a rare manuscript of the late Eighteenth century, "*Physica, Metaphysica et Hyperphysica.* D.O.M.A.," with the original German version (printed in red) on the right-hand pages, and an English translation (printed in black) on the left-hand pages, so that the serious student has an opportunity to compare the translation with the original, and arrive at his own conclusion as to its accuracy.

A volume like this will probably not have a very wide sale, but the serious student of occult philosophy will recognize it as a prize, the like of which is not made available more than half a dozen times, at most, in an ordinary lifetime.

The Seminar

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(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 2 (Medical)

Presented by J. Travis Bennett, M.D., El Paso, Tex.

(See CLIN. MED. & SURG., Feb., 1939, p. 87)

RECAPITULATION: A boy of 5 years had sudden attacks of stiffness of the body, lasting 2 or 3 seconds, accompanied by a cry and followed by abdominal pain. He did not lose consciousness. The attacks (which were not convulsions) always occurred before or just after breakfast. The only past medical history of importance was frequent gastro-intestinal upsets, with pain, vomiting, and foul, loose stools. These were better when he was on a fat-free diet.

He was a slender, active, alert boy, and a careful physical examination revealed no abnormalities. His stools and urine were normal.

Requirements: Suggest a tentative diagnosis and treatment, *giving reasons.* What further studies would *you* require to make a definite diagnosis?

Discussion by G. M. Russell, M.D., Billings, Mont.

The *tentative diagnosis* in this case is probably *tetany.*

Treatment: Increase elimination by forcing fluids, diaphoresis, catharsis, and colon irrigations, and give a low-protein diet, rich in vitamins and calcium. Parathyroid deficiency may be counteracted by giving preparations of that gland. Exposure to ultraviolet rays may be of value, especially in conjunction with calcium therapy.

The fact that this child had had considerable gastro-intestinal disturbance is an indication that the present condition is probably tetany.

Further studies I should require are: elicitation of Erb's, Trousseau's, Chvostek's, Pool's, and Hoffmann's signs. The presence of any of these phenomena, and the absence of neurologic signs, would determine the diagnosis.

Discussion by Edmund Lissack, M.D., Concordia, Mo.

After giving the history and physical examination record of this case careful consideration, one sentence attracts attention: "The attacks occur on arising or immediately after breakfast." The record states there were no pathologic findings in the urine or stools, but we are not given a complete blood picture. A blood sugar test should have been made.

Assuming that the blood sugar is low, indicating a deficiency of sugar in the blood, this would be a case of *hypoglycemia* or *hyperinsulinism.* If this assumption is correct, a strong carbohydrate diet with possibly a low fat content, given in small meals at frequent intervals during the day, would be indicated and would do some good. This case deserves considerable careful watching as the child grows up. One wonders if this child's mother was a diabetic.

Discussion by R L. Gorrell, M.D., Clarion, Ia.

The predominating symptoms complained of are those related to the nervous system. They may be considered as the equivalent of a minor epileptic attack. That these attacks occur early in the day is significant, in view of the fact that at this time the blood sugar is at its lowest point. *Hyperinsulinism* (hypoglycemia) is a well known cause of nervous symptoms.

The diagnosis can be clarified by a fasting blood-sugar test, followed by a glucose-tolerance test.

Solution by Dr. Bennett*

The differential diagnosis between epilepsy and *hypoglycemia* is often difficult. In this case, the important diagnostic point is that the attacks occur before breakfast or before food has had a chance to increase the blood sugar.

The fasting blood sugar was 68 mg. per 100 cc. The dietary change consisted in the administration of frequent small meals. A ketogenic diet may be of value at times, the object being not to stimulate the islands of Langerhans by carbohydrate overfeeding.

Closing Comments by George B. Lake, M.D., Waukegan, Ill.

As suggested by two of the discussants, the fact that this patient's nervous symptoms always occurred before or very soon after breakfast was enough basis for a tentative diagnosis of hyperinsulinism; and a fasting blood-sugar and dextrose tolerance test was all that would be needed to establish the diagnosis.

It would appear that many of our readers are overlooking this *common* disorder, to the detriment of their patients and themselves.

In size, this *Seminar* is the all-time low. If *you* like this department and want to see it continued, *give it some support.* Send in well-worked-up problems, or, at least, *send discussions of those presented, frequently.*

(Continued on page 191)

*Adapted from *Southwestern Medicine,* Dec., 1938.

Clinical Notes and Abstracts

Interpretation of the Leukocyte Picture *

THE SCIENCE of hematology is an extensive one, and requires a broad experience of those who would be expert. But it is also true that familiarity with some of the recently recognized yet basic principles will be of the greatest aid in early diagnosis and in administering the most effective treatment.

A brief review of the blood-forming organs will bring about a clear understanding of the effect of disease upon the blood picture.

The hematopoietic system includes the thymus, liver, spleen, lymph nodes, and bone-marrow. After birth, the thymus, liver, and spleen take little or no part in blood cell formation, although the spleen is the seat of red cell destruction after the period of usefulness of these cells is over (about 30 days). In the embryo the blood cells are derived from the embryonic mesoderm or middle layer (between the ectoderm and endoderm).

In health, it is only in the lymph nodes and bone-marrow that blood cells are produced, and here the partially mature lymphocytes and myelocytes are able, by proliferation, to take care of the ordinary needs of the body. Maturation of these immature elements is accompanied by certain morphologic changes by which one may identify the age group of the cell. The reaction to various dyes also helps in determining the age of a cell. It is by the age of the predominating cells and the relative numbers of various cells in the bone-marrow or lymph node or peripheral blood that one may recognize and properly diagnose the variety of blood dyscrasia.

Neutrophilic leukocytosis, or *neutrophilia,* implies that the increase, or leukocytosis, affects only the neutrophiles (normal, 3,000 to 7,000 per cu. mm.).

Lymphocytosis implies that there is an abnormal number of lymphocytes in the circulating blood (normal, 1,000 to 3,000 per cu. mm.). Lymphocytosis occurs in pertussis, infectious mononucleosis, influenza, lymphatic leukemia, sometimes in exophthalmic goiter, and syphilis.

Monocytosis indicates a rise above the normal number of monocytes. A *relative* neutrophilia or lymphocytosis means that there is no *actual* increase, but an *apparent* increase, due to the diminution of one of the other cell types (normal count, 100 to 600). Monocytosis occurs in tetrachlorethane poisoning, subacute bacterial endocarditis, occasionally in Hodgkin's disease. A monocyte rise occurs during the subsidence of an acute infection.

Eosinophilia refers to an increase in the number of eosinophiles (normal count, 100 to 500). Percentage rises are misleading. Eosinophilia occurs in allergy, parasitic infestations, skin diseases, myelogenous leukemia, gonorrhea, scarlet fever, and in postinfectious states.

Non-infectious neutrophilic leukocytosis: Few realize that there is a diurnal variation of leukocytes of from 1,000 to 4,000 cells. Counts for comparison should be made, therefore, at approximately the same time each day. In the newborn, the total count may be as high as 25,000 normally. Leukocytosis occurs during severe muscular exercises, convulsions, dehydration states, paroxysmal tachycardia, coronary occlusion, hemorrhage into any serous cavity, diabetic coma, intestinal obstruction, and strangulated hernia. In these conditions it is the neutrophile that is chiefly affected. There is not a marked change in the proportions of juveniles and stab nuclears (see Fig. 1) at the expense of the segmented forms. For emphasis, then, one may state that the total count alone will not differentiate appendicitis from a ruptured ectopic pregnancy, for both would show a leukocytosis, with immature forms.

Infectious neutrophilic leukocytosis: Schilling, found that, as an infection increased in severity, and the total count rose, the percentages and also the absolute numbers of stabs and juveniles also rose, sometimes at the expense of the mature segmented leukocytes. Myelocytes appeared in increasing numbers. The bone-marrow at this time shows marked activity, with proliferation of myelocytes and even still younger forms of myeloid cells. So long as sufficient numbers of mature segmenters are produced, this is a good sign, for, like the rise in temperature, it indicates mobilization of the fighting forces of the body. However, when the shift is characterized by a fall in percentages or absolute number of mature segmenters, which happens in severe shifts to the left, the outlook for the patient is bad unless some form of treatment arrests the infectious process.

It is worthy of note that many times clinical signs and symptoms fail to indicate the severity of an infection or of sudden changes in its course, but the clinician can be forewarned by the correct observation of an accurate blood picture, prepared at sufficiently frequent intervals. A single observation is of little value for, while it indicates the present condition, it does not reveal the trend of a disease.

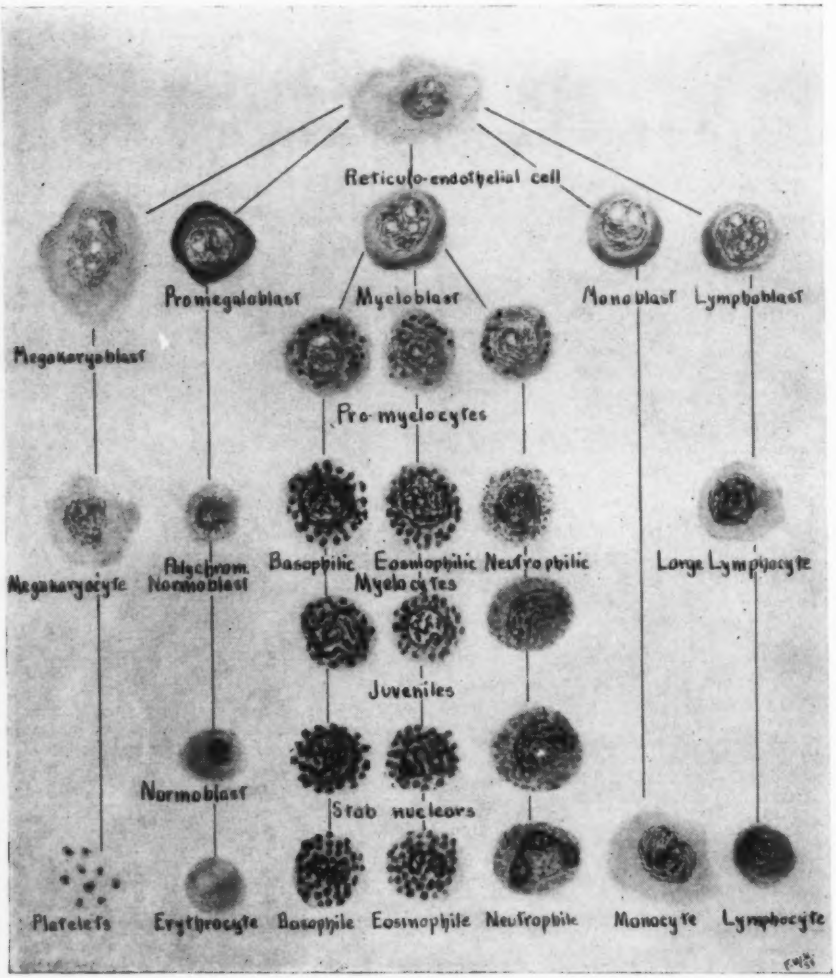
Leukopenia, when involving the granulocytes alone, is called *neutropenia* or granulocytopenia. Total counts below 5,000 are considered leukopenic. Neutrophiles below 3,000 constitute neutropenia.

Primary neutropenia, often called *malignant neutropenia,* occurs without apparent cause. *Secondary neutropenia* occurs in typhoid fever, measles, influenza, during overwhelming infections by the streptococcus, in poisoning by benzol, sulfanilamide, amidopyrine and the heavy metals, after ex-

*The Merck Report, Oct., 1938.

tensive irradiation with x-rays and radium, in lymphatic leukemia, and with metastatic involvement of the bone-marrow by malignant tumors.

tom that brings the patient to the physician. Sternal bone-marrow biopsy is most helpful in differential diagnosis.



Courtesy, *The Merck Report.*

Fig. 1.—Schematic drawing of blood cells showing their derivation and chief morphologic characteristics. There are many theories concerning the derivation of blood cells. An attempt has been made to simplify the commonly accepted viewpoint.

Primary neutropenia must be distinguished from the secondary type because the treatment is so different. The primary form is usually associated with a hyperplastic bone-marrow; many varieties of immature cells are encountered in bone-marrow biopsies. Platelets are not diminished, and there are no hemorrhagic phenomena. There is no lymph-node enlargement, the spleen is not commonly enlarged, and there is no progressive anemia. Infection of the throat or pneumonia may occur secondarily, when the leukocyte count falls below 1,500. Indeed, the infection may be the first symp-

Secondary neutropenia is the result of the destruction of marrow cells before they mature, by some one of the toxic agents mentioned or by crowding out of the myeloid cells, as in metastatic malignancy, lymphatic leukemia, or red cell production in pernicious anemia. Except in the latter disease, the marrow is hypoplastic (very few myeloid cells present), a state which sternal biopsy will reveal. Because of the effect of the same agent on the red-cell-forming elements, there is usually an accompanying anemia of a more or less severe degree. The white cell blood picture dif-

fers little from that found in the primary type. Lymphocytes and monocytes are found in normal numbers by absolute count, though their relative percentages are definitely increased.

Infectious mononucleosis may begin with neutropenia, but soon there is a sharp rise in the total count, to as high as 30,000. There are generalized lymphadenopathy, splenic enlargement, sore throat, and fever. Anemia is not usually encountered. The disease is easily confused with primary neutropenia in the early stages, when the white count is low, and with lymphatic leukemia when it is high. The early rise in the total count and the presence of immature lymphocytes serve to rule out neutropenia. In lymphatic leukemia counts rise above 30,000, and typical lymphoblasts are seen in the stained film. The relatively normal red cell and platelet count further aid in distinguishing this condition. A careful scrutiny of the blood picture over several days, to determine the trend, consideration of the physical findings, and finally the heterophile antibody test, will usually lead to a correct diagnosis. Biopsy of the sternal marrow and an enlarged superficial lymph node will aid in the obscure case.

Leukemia is of three main types: one affecting the granulocytes, and therefore called myelogenous leukemia; one the lymphocytes, called lymphatic leukemia; and the third, the monocytes, called monocytic leukemia.

The total leukocyte count ranges from 30,000 to 100,000 or over 200,000 cells. In *myelogenous leukemia,* all varieties of myeloid cells, from the myeloblast to the mature segmenter, will be encountered. The more acute forms will show a predominance of the immature myeloblasts and promyelocytes. In the very acute forms the predominating cell is often a small, stunted myeloblast, which is sometimes mistaken for a lymphocyte. Such small-celled leukemias are called micromyeloblastic.

Clinical signs and a carefully studied blood picture will lead to a correct diagnosis, for even these leukemias will reveal a few eosinophilic myelocytes, which indicate the true nature of the disease. In myelogenous leukemia there is usually a severe anemia, and nucleated red cells are found in the stained smear. Early, there is little change in the platelets, but in the advanced cases blood platelets are reduced in number and there are consequent hemorrhagic phenomena.

Lymphatic leukemia is characterized by a predominance of lymphocytes. In the chronic form they are small, mature elements, while in the acute variety they are larger, less-mature cells. The lymphoblast is the diagnostic cell of this variety of leukemia. It is recognized by the delicate markings in its nucleus and the presence of nucleoli. In the early stages the absolute count of neutrophiles and the red-cell count are normal, but as the disease progresses and invades the bone-marrow, neutropenia and anemia become characteristic and diagnostic signs. At this time, too, platelets are diminished and there are hemorrhagic phenomena. Again, sternal and superficial lymph node biopsy are valuable aids in differential diagnosis.

In *monocytic leukemia,* the monocyte is the predominating cell. It is recognized by peculiar infolding of the nucleus and the fibrillar network of the nuclear markings. It is the subleukemic and aleukemic phases that are recognized with difficulty. The subleukemic phase is characterized by a normal or slightly increased total count, but with immature elements appearing in the stained film, while in the aleukemic phase, not only is the total count normal or below normal but the stained film shows few or no abnormal cells. In these states anemia, infection with neutropenia, hemorrhages from mucous membranes with thrombocytopenia, abdominal tumor (splenomegaly), or lymphadenopathy may bring the patient to the physician. The blood picture in a single observation may not be conclusive, but a series of observations, giving due consideration to the various cells of the bone-marrow and lymph nodes, aided by actual biopsy of bone-marrow and lymph node, will permit of accurate diagnosis in a large majority of cases.

FRANK W. KONZELMANN, M.D.
Professor of Clinical Pathology,
Temple University Medical School
Philadelphia, Pa.

Iodized Oil in Bronchial Asthma*

LIPIODOL was used, at first, for the treatment of bronchial asthma. At the present time, poppyseed oil containing 25 percent of combined iodine is used, because it is easier to give.

Technic: The patient's throat and larynx are anesthetized with a spray containing a local anesthetic (cocaine, Nupercaine), after which the patient is instructed to sit up and lean to the right or left, depending upon which bronchi one wishes to reach. The warmed iodized oil is administered with a warmed syringe and tracheal catheter (or long blunt needle), by dropping it on the base of the tongue. It is allowed to run in slowly, and a little traction is usually maintained on the tongue.

Selection of cases: Those cases will be benefited which have a history of excessive productive cough or bronchiectasis, and who do not respond to the usual forms of accepted therapy. The patients with bronchiectasis were remarkably benefited by iodized oil. It should not be administered to old or very sick patients, or during an acute attack of asthma. It is safest to give only 5 cc. of oil during the first treatment, to rule out the iodine-sensitive patient. Those cases with acute upper respiratory infections should not be treated until the acute stage is past.

M. W. MOORE, M.D.
Portland, Oregon.

Allergy in Bronchiectasis

OVER 90 PERCENT of patients with bronchiectasis were demonstrated, by the use of the skin tests or elimination diets, to be allergic to dust, foods, pollens, or cosmetics. A family history of such allergic diseases as asthma, eczema, recurrent rhinitis, hay fever, or migraine was often obtained. A further proof of the allergic nature of bronchiectasis was furnished by the demonstration of 10 percent or more eosinophils in the bronchial secretions.

Desensitization by vaccines (dust, foods, pollen), avoidance of inciting agents (allergens such as cosmetics and feathers), and the use of elimination diets comprised the treatment, which quite frequently succeeded in curing early bronchiectasis and diminishing the secretion in advanced cases. The commonest sensitizations are to feathers, pol-

*Northwest Med., Feb., 1939.

lens, orris root, house dust, and wool, although foods were occasionally the most important factors. —S. H. Watson, M.D., and C. S. Kibler, M.D., in *J.A.M.A.*, July 30, 1938.

Treatment of Sinusitis and Colds*

Thirty (30) patients with recurrent nasal sinusitis were treated with a diet which excluded refined carbohydrates and substituted cruder carbohydrates, glandular proteins (liver, kidney), green leafy vegetables, and dairy and poultry products. Citrus fruits and juices were emphasized. The patients were forbidden to take mineral oil, which carries away the vitamin A in the diet, and Aspirin (acetosal), which destroys vitamin C.

Additional vitamin B complex was added, as the requirement for this vitamin is known to be increased when the total metabolism is raised by chilling, infection, fear, fever, or fatigue. There was no case that did not show some improvement, and many were markedly benefited. Recurrences invariably followed in a matter of weeks after returning to the former diet.

Arnold's research indicates that a diet which contains an excessive amount of refined carbohydrates (sugar, bread, candy, cake, soda drinks) is responsible for an increased susceptibility to repeated attacks of rhinitis, and at the same time is detrimental to the nasal vasomotor response to chilling of the skin surface. Hydrotherapy is beneficial also, and the combination of a proper diet, hydrotherapy, and relief of acute or chronic fear will relieve almost every case.

Professor Walter B. Cannon called my attention to the practical importance of utilizing the significance of Dr. Mudd's findings of chilling of the nasopharynx as a result of chilling of the skin surface. It was Dr. Cannon's contention that if, at the onset of a cold (acute infectious rhinitis), the chilling action of the skin surface should be promptly reversed by the opposite reaction (heat), it might be possible to abort the cold. Dr. Cannon tried it on himself in 1931, by stopping work, going to bed, and keeping very hot by external covering and applied heat, as well as by hot drinks. He was able to report back to work in 24 hours, free of symptoms, and since that time has not had a mucopurulent nasal discharge or cough, except on one occasion when he neglected the early symptoms while traveling. This six-year record is in contrast to the two or three severe colds which he experienced each winter up to that time.

Edwin P. Seaver, M.D.

New Bedford, Mass.

Pertussis and Convulsions†

Convulsions in infants and children, during acute infectious diseases, are sometimes minimized in their importance and seriousness by physicians, who feel that a convulsion is either a manifestation of invasion by the infecting organism or the result of a high body temperature. *This is not true of convulsions complicating pertussis*, since the general mortality rate of from 5 to 10 percent for all hospitalized patients having pertussis, uncomplicated by convulsions, increases to from *60 and 80 percent* when convulsions are present.

These factors predispose to convulsions: (1) Infancy, as convulsions occurred most commonly in children under 2 years of age; (2) cyanosis; (3) severe paroxysms; (4) the presence of bronchopneumonia; and (5) congenital defects of the brain.

Treatment: Do not give morphine, ether, or chloroform, as these agents control the convulsions but frequently kill the patient. Give barbiturates by mouth, rectally, or subcutaneously; an immediate transfusion of blood; and oxygen, preferably by the tent method. Blood transfusions give the best curative results, especially when used within 24 hours after the onset of convulsions.

Karl Habel, M.D.
Pascal Lucchesi, M.D.

Philadelphia, Penn.

Look for FACTS AND COMMENTS among the advertising pages at the back.

"Growing Pains"*

The syndrome of "growing pains" is not commonly related to rheumatic fever or subacute rheumatism and does not usually terminate in rheumatic carditis. Children affected with "growing pains" usually give a history of *frequent colds* and coughs, with exacerbations of the pains. Such children are benefited by tonsillectomy and treatment of their colds.

Many of these children do not gain in weight, so that "growing pains" is an inaccurate term. They frequently present signs of general, but vague, ill health. The commonest cause is some minor *orthopedic deformity*, such as flat foot, knock-knee, or scoliosis, or else a purely-postural deformity. Improvement is rapid with orthopedic treatment or, in postural cases, treatment by suitable exercises.

Fibrositis of muscles is a cause of certain cases, and is the only group of cases in which tenderness can be demonstrated. *Tiredness* is a frequent cause, and is seen in children who have long distances to walk to school or who stand for long periods. *Inadequate sleep* is a factor of importance. *Psychologic maladjustments* (over-anxious parents, unkind relatives, or unsatisfactory relations with teachers and playmates) are a frequent finding.

J. C. Hawksley, M.D., M.R.C.P.

London, England.

[Since deficiency of the vitamin B complex is definitely associated with *neuritis* of varying degrees, it would seem worth while to study patients with "growing pains" from this viewpoint, also.—Ed.]

*E. E. N. & T. M., Sept., 1938.

†*Am. J. Dis. Child.*, Aug., 1938.

*Med. World, Nov. 11, 1938.

Cardiologic Pointers*

OBESITY: All obese people tend to become short of breath on exertion, but a diagnosis of "fatty heart" cannot be made on this account alone, for fat deposited about the heart rarely causes insufficiency. Hypertension and other causes should be looked for.

Percussion of the heart: Even in a patient neither emphysematous nor obese, it is impossible to estimate the transverse diameter of the heart with any accuracy by percussion. One has only to examine a normal chest fluoroscopically, in the lateral or oblique position, to be persuaded of this. No one has ever suggested that the *depth* of the heart—a very important matter in cases of mitral stenosis, congenital morbus cordis, etc.—can be estimated by percussion. Yet both of these points can be readily determined by fluoroscopy, and also the size of the individual chambers can be studied.

Scoliosis, even of so slight a degree as to be recognizable only by radiography, makes the apex beat appear to be displaced to the left. A *high diaphragm*—the constant accompaniment of obesity—causes the heart to lie transversely and thus to appear wider, and also results in displacement of the apex to the left.

The heart does not increase in size with age. It may even diminish in size. When an enlarged heart is found in an old patient, another cause should be looked for, such as hypertension, bundle-branch block, et cetera.

Contrary to common belief, *the size of the heart does not materially decrease as the signs of cardiac failure decrease,* in cases of congestive heart failure. This fact was established by Mackenzie many years ago, and recently confirmed, on roentgenologic evidence, by Palmer.

Edema, which is not accompanied by enlargement of the heart (radiologic examination of the heart may be required to determine cardiac enlargement in obese and emphysematous patients), *is practically never of cardiac origin.*

Extra systoles are meaningless. After middle age, they may be considered almost a normal phenomenon.

Acute rheumatism is rare in adult life. A first attack which develops after the age of 20 seldom causes permanent damage to the heart, and the nearer this age the patient is, the less likely his heart is to be affected. When, during the course of an attack of acute rheumatism, definite signs of valvular disease are discovered, it can be stated positively that the patient has had a previous, unnoticed attack.

There are two *cardinal symptoms* of heart disease: (1) *Dyspnea on exertion;* and (2) *pain,* usually retrosternal. The pain of angina pectoris is usually retrosternal and not precordial. It is never "stabbing" in nature. Left submammary pain is usually due to physical and nervous exhaustion, is persistent, aching in character, and not induced (though it may be increased) by exercise.

Blood pressure should not rise with the years (as was formerly supposed), in a steadily rising curve. Normal individuals do not gain more than 15 mm. in the years between 20 and 60.

Auricular fibrillation is very rarely associated with syphilitic heart disease or sub-acute bacterial endocarditis.

A patient may suffer from coronary thrombosis, yet present no physical signs.

J. W. LINNEL, M.D.
W. A. R. THOMPSON, M.D.
London, Eng.

*Brit. M. J., Aug. 27, 1938.

Treatment of the Ambulatory Cardiac Patient*

IN the treatment of diseases of the heart every therapeutic effort should be directed toward keeping the patient safely ambulatory. In many instances, the happiness and comfort of the patient with cardiac disease, not to mention his wage-earning power, lie largely in the hands of the general practitioner who directs the follow-up treatment.

Disability and death, in patients with cardiac disease, come when the heart fails as a pump (congestive failure), or when the circulation to the heart through the coronary arteries is faulty. Chest pain is then the presenting feature.

We must ask, *and answer,* these questions: Is hyperthyroidism responsible for the cardiac condition? Is syphilis the cause? Is the condition functional? In these three types of cases, proper therapy may relieve the patient entirely.

Digitalis is indicated whenever the heart fails as a pump, regardless of the cause. It matters little whether there is right or left ventricular failure, or whether fibrillation of the auricles or sinus rhythm is present. *Tachycardia, valvular lesions, and the arrythmias do not call for digitalis in themselves. Angina may be increased, and certainly will not be aided by digitalis.* It will be *harmful* if given routinely in pneumonia, shock, and to surgical patients.

Dose: From 15 to 30 grains (1 to 2 Gm.) are necessary for optimum effect in a patient who has not received digitalis for two weeks [1½ grains (0.1 Gm.) of the leaf for each 10 pounds of body weight]. The speed of administration is governed by the patient's condition. As soon as full effect has been obtained, the dose is reduced to 1½ grains daily, or the amount the average patient excretes. This dose may be increased or decreased slightly.

Successful digitalization and maintenance doses may be sufficient to keep a large percentage of ambulatory patients edema-free. Intravenous injections of mercurial drugs (Salyrgan, Mercupurin, Novurit) are very effective in reducing edema, especially if preceded by the administration of ammonium chloride [20 grains (1.3 Gm.), in enteric-coated tablets, every four hours]. The new rectal mercurial suppository is not quite so effective as the intravenous administration, but may be necessary if the physician is at a distance from the patient or if the veins are poor. *Digitalis should*

*Penn. M. J., Jan., 1939.

be discontinued during the day of administration of the diuretic, as the digitalis in body fluids is swept into the circulation by the mercury, and nausea, headache, vomiting, and weakness may result.

Quinidine should be used in the treatment of paroxysms of auricular fibrillation, tachycardia, and flutter, and many times will aid in abolishing frequently-recurring and annoying premature beats or extra-systoles, in patients whose hearts are otherwise normal. The patient with *chronic* auricular fibrillation should, however, be given digitalis, the arrythmia forgotten, and the ventricular rate kept at 70 without using quinidine.

Exercise is valuable for the cardiac disease patient. Class 1 patients may swim, walk, and golf, if no chest pain or undue dyspnea results. Toleration to exertion can be easily acquired, much to the patient's benefit. No *competitive* exercises should ever be allowed, nor should the older cardiac patient, especially with angina, be allowed to drive or park in traffic.

The heart's work is increased by fatty tissue, so that obesity must be corrected. Protein should be limited to 50 Gm. daily.

W. G. Leaman, Jr., M.D.

Philadelphia.

Dieting the Prospective Mother*

The weight of the baby may be definitely reduced if the mother is put on a strict diet during the last two months of pregnancy. No bread, potatoes, sweets, macaroni, or spaghetti are allowed during this time. During the first seven months, the patient is allowed to take her usual diet unless she gains weight too fast.

As a comparison, the weights of babies delivered by mothers who had and had not been on the diet is given:

Patient	No diet	Dieted
1	8 lb. 8 oz.	7 lb. 8 oz.
2	14 "	6 " 12 "
3	9 " 4 "	7 " 4 "
4	8 " 8 "	6 " 12 "
5	9 " 8 "	7 " 8 "
6	9 "	7 " 4 "
7	8 "	7 " 4 "
8	9 " 4 "	7 " 8 "

Delivery was quicker and easier, forceps were not necessary in any of this group of patients, and routine episiotomy was not required.

G. G. Perry, B.S., M.D.

High Point, N. C.

[The high-vitamin, high-mineral diet of green vegetables and fruit during the last two months of pregnancy is ideal from the standpoint of insuring maximum uterine strength. Foods containing vitamin E (as wheat germ), wheat cereals, lettuce, egg yolk, and milk fat, should be stressed. —Ed.]

*South. Med. & Surg., Aug., 1938.

Dyspnea in Cardiovascular Syphilis*

The most frequent symptom of cardiovascular syphilis is dyspnea. The patient states that the hill or stairs he previously walked up with ease has suddenly begun to cause dyspnea. Most important is the shortness of breath that comes on in paroxysms, especially at night, awakens the patient, lasts for from 3 to 15 minutes, and leaves the patient exhausted and perspiring profusely.

This symptom occurs more often in syphilitic aortitis than it does in hypertensive states or in arteriosclerosis. Pain beneath the sternum, of a burning or "tight" character, is the second most common symptom. It may come on with or without effort, more commonly the former.

Do not give arsphenamine in these cases, as the edema of a Herxheimer reaction may close the already narrowed coronary artery opening. It is recommended that from six to ten weeks of bismuth treatment be given, together with iodide, until the absence of precordial distress indicates that no coronary disease is present. Then arsphenamines may be cautiously administered, in small doses.

Occasionally we see patients who, after several weeks' treatment, show aggravation of symptoms and additional signs that they did not have before. This "therapeutic paradox" is due to the healing effect of the treatment, with the further production of scar tissue.

Diagnostic pointers: (1) Substernal pain; (2) paroxysmal dyspnea; (3) bell-like, tympanitic, accentuated second aortic sound; (4) supracardiac dullness, confirmed by the evidence of x-ray studies. *Do not rule out syphilis because the Wassermann test is negative.*

Albert Blau, M.D.

Brooklyn, New York.

*N. Y. St. J. Med., Aug. 15, 1938.

Think of Syphilis†

The physician should suspect syphilis if: (1) angina pectoris or cardiac pain is experienced by a patient under 45 or 50 years of age; (2) cardiac insufficiency symptoms appear in the same age group; (3) coronary occlusion occurs in the same age group; (4) neurasthenic symptoms appear for the first time in persons past 35 years; (5) symptoms suggesting cancer of the stomach develop in persons under 40; (6) the symptoms suggest central nervous system disease, the cause of which is not explained, especially hemiplegia, or convulsive seizures in comparatively young subjects whose blood pressures are not high; and (7) there are unexplained, prolonged fevers.

†New Orleans M. & S. J., Aug., 1938.

Think of syphilis if you find one or more of these signs on physical examination: (1) Scars, especially genital scars; (2) enlarged, firm lymph nodes (generalized, epitrochlear, or posterior cervical); (3) stigmata of congenital syphilis—Hutchinsonian teeth, saddle nose, rhagades; (4) accentuation of the aortic second sound, or aortic systolic murmur, or both, in a non-hypertensive patient under the age of 50; (5) signs of aneurysm or aortic enlargement; (6) unexplained enlargement of the liver or spleen; (7) unidentified masses in the upper abdomen; (8) abnormalities of the pupils—inequality, irregularity, or changes in reflexes; (9) abnormalities of the deep reflexes, especially absence or diminution; (10) and a positive Rhomberg test.

EDGAR HULL, M.D.

New Orleans, La.

State Medicine is poorhouse medicine. Tell your patients.

Surgical Aspects of Gonorrhea*

MOST of the severe cases of gonorrhea that have come under my care showed a pin-point urethral meatus, and as soon as this was incised and drainage restored, marked improvement was observed. It is important to remember that the meatotomy incision is very rarely infected by the flow of gonorrheal pus. The incision must be extended sufficiently posterior so as to include the internal meatus as well as the external, otherwise the procedure is useless.

In the uncircumcised, it is often imperative to relieve an unretractible prepuce (acute phimosis). A dorsal incision exposes the glans and restores urethral drainage. When the acute infection has subsided, a complete circumcision is done to remove the dog's-ear appearance of the divided prepuce.

Periurethral abscess, resulting from the infection and closure of one of Littre's glands, is made evident by the presence of a painful swelling on the penis. The abscess should be incised through the external surface. A painful bulging of the perineum may indicate an abscess located at the bulb or an abscess of Cowper's gland, and should be treated by median incision and drainage. In all of these conditions, there is little possibility of the development of a fistula, if free drainage is possible.

Abscess of the prostate is treated expectantly, for several days, awaiting spontaneous rupture into the urethra or rectum. It is not safe to wait too long, because of the danger of urinary extravasation. Surgically, the abscess may be incised in the midline of the perineum, preferably over a urethral guide.

Treatment of acute epididymitis: The application of diathermy directly to the epididymis and testicles relieves the inflammation, diminishes the swelling, and shortens the period of incapacity.

A method of securing quick relief is this: Incise the infected epididymis and testicle and inject an antiseptic liquid into the vas deferens to flush out the seminal vesicles. If there is much pus in the epididymis, convalescence will be quicker if the structure is removed entirely.

Treatment of seminal vesicle infection: I believe that the best results are obtained by vasotomy and injection of antiseptic fluids.

ABRAHAM WOLBARST, M.D.

New York City.

*Urol. & Cut. Rev., May, 1938.

Treatment of Infantile Eczema*

THE local remedies used in the treatment of infantile eczema are:

For the greasy scaling of the scalp ("cradle cap"), use an ointment containing salicylic acid 2 Gm., in 120 cc. of petrolatum. It should be applied heavily and well rubbed in for each day of a four-day period; between applications, the scalp may be covered with a cheap cotton cap. The fifth day, the hair should be shampooed with soap and water, and the loosened scales removed with a fine comb.

For the scaly lesions on the face, this prescription should be used:

℞

Coal tar, N.F.	7.5 Gm.
Zinc Oxide	15.0 Gm.
Starch	30.0 Gm.
Petrolatum	120.0 Gm.

Mix and make into an ointment.

This should be applied as often as necessary to keep the face covered. It should not be used if pyogenic infection is present. It should be used until the skin is somewhat wrinkled and drawn. At this stage, it is discontinued and an ointment composed of equal parts of compound ointment of resorcinol (N.F.) and cold cream (rose water ointment, U.S.P.) is applied. This is continued as long as there is any appreciable dermatitis, or until the face becomes too red, at which time cold cream alone is substituted.

For large areas on the body, this prescription should be used:

℞

Coal tar, N.F.	7.5 Gm.
Petrolatum	60.0 Gm.
Wool fat	60.0 Gm.

If there are only a few small patches, crude coal tar may be painted on once a day with a cotton swab. For the intertrigo, a dry dusting powder is best and purified talc may be used.

If there is an oozing dermatitis on the face, the tar paste may be applied and followed by resorcinol compound. If there is much weeping, it should be checked by the use of a saturated solution of boric acid or by:

℞

Solution of lead subacetate	15 cc.
Solution of aluminum subacetate	15 cc.
Distilled water to make	120 cc.

Either of these may be sopped on every hour until the oozing is controlled, which usually takes about three days. Tar paste is then applied. Phenobarbital may be necessary to control itching.

LEWIS WEBB HILL, M.D.

Boston, Massachusetts.

*J.A.M.A., Dec. 3, 1938.

Local Injections of Procaine Solution for Intractable Pain of Arthritis and Related Conditions*

I HAVE used aqueous and oily procaine solutions in the treatment of painful chronic arthritis, sciatica, sacro-iliac joint disease, and rheumatic and fibrositic affections. One- or two-percent procaine solution was used, or procaine base was dissolved in hot sweet-almond oil *after sterilization.*

Some patients have received one, and a few from 10 to 12 injections before lasting relief was obtained. The aqueous solution may always be employed, but the oil is sometimes contraindicated, as in brachial-plexus block. The oil solution often produces a local inflammatory, foreign-body reaction of varying degree, lasting from 1 to 3 days. Occasionally a transient systemic reaction, with slight fever, may follow.

The procaine solution is injected directly into the painful tissues or into the nerve supplying them, as brachial-plexus block for painful shoulders (fibrositis, neuritis, bursitis, arthritis). Painful acute and chronic involvement of the elbows, wrists, and digital joints has also been relieved by this method. I use the supraclavicular block of Labat.

Peri-articular injections of the knee: When injecting the knee, the sore sites are determined by deep pressure against the underlying bone, and at the points of maximum tenderness, intracutaneous wheals are made with aqueous procaine solution. An injection of from 2 to 5 cc. of aqueous solution is then made over bony contact points. If the patient is sufficiently relieved, the injections are repeated until permanent relief of the pain is obtained. If the freedom from pain is too brief, the oily preparation is next injected at each site (1 or 2 cc.).

Intra-articular injection may occur, but there is no reaction unless the oily solution is used, in which case an acute chemical arthritis will appear, with signs of inflammation and effusion into the joint, which will subside in from 3 to 6 days.

Painful spurs: Injections about painful bony processes, particularly osteoarthritic spurs, are useful when operation is refused or must be deferred. The exostosis is injected directly with procaine solution. If the oily solution is used, some tenderness and swelling will be present for from one to three days. Painful **hallux valgus** and severe **metatarsalgia** are gratifyingly relieved by injections of iodized oil.

Sacro-iliac pains: For such pains which do not respond to usual treatment, a procaine wheal is raised just medial to the margin of the posterior superior iliac spine and the needle is thrust in until the bone is struck. Five (5) cc. of solution are deposited, in 3 fanwise, divided injections, into the soft tissues over the joint.

Sciatica: The patient lies on the sound side, with the higher thigh flexed. A line is drawn joining the posterior superior iliac spine to the greater trochanter at its supero-posterior prominence. A perpendicular at the midpoint of this line is drawn and at a point one and one-half inches along this perpendicular, the point of injection is located (inferior to the base line previously drawn). A 4-or 5-inch needle is inserted and directed anteriorly and slightly medially. When the nerve is touched, paresthesias are elicited. The needle is slightly withdrawn, and 30 cc. of aqueous solution, or 5 cc. of the oily solution, are injected. If adhesions within the nerve sheath are suspected, inject 10 cc. of 2-percent procaine solution, followed by 75 cc. of warm, physiologic saline solution.

Painful backs: Into the most tender areas, 5 to 20 cc. of aqueous solution are injected. In widespread fibrositic involvement of fascia and muscles, particularly in the gluteal and low back regions, I have resorted to deep, massive injections of 10 cc. of 2-percent procaine solution, with 25 to 100 cc. of physiologic saline solution. Tenderness and crepitation frequently disappear after 1 or 2 such treatments, which seem to break up adhesions.

OTTO STEINBROCKER, M.D.

New York City.

*Anesth. and Anal., Jan.-Feb., 1939.

Bromide Poisoning*

SLEEPLESSNESS, irritability, dull morning headache, indigestion, fatigue, and constipation were the initial symptoms noticed in a series of 400 patients suffering from *chronic bromide poisoning,* resulting from the unauthorized refilling of prescriptions for bromide preparations, and from drug-store sales of bromide tablets and bromide-containing "headache" tablets. If these tablets contain acetanilid also, sulfhemoglobinemia may be present and the patient will appear cyanosed.

"Dizziness," tremor of the hands, emotional instability, lethargy, slurring speech, delusions, hallucinations, loss of memory, dilated pupils, blurred vision, and loss of libido, were other symptoms. A rash resembling that of acne appeared on the face and upper trunk. Many of these patients were diagnosed as "psychoneurotic," until the true cause of their illness was discovered.

Treatment: Administer 9 to 12 grams of sodium chloride daily, as iced saline solution, or in enteric coated pills, or in bouillon (each cube contains 2.4 grams). Continuous aspiration of the stomach is of definite aid in the severe cases. Improvement it noted within from three to seven days.

F. M. HANES, M.D.

Durham, N. C.

*South. M. J., June, 1938.

Diagnosis of Referred Pain†

THE physician must remember that pathologic conditions outside of the abdomen may produce abdominal pain and tenderness. In making the differential diagnosis, these points are of value:

1.—*Macrae's sign:* If the examiner's hand be placed on the abdomen and the patient instructed to take a deep breath and then exhale, it will be found that, with rigidity arising in connection with extra-abdominal pain, the whole abdominal wall will move backward and forward without any material relaxation. This is in contrast to the immobile wall observed in peritonitis. In other

†*West. J. Surg.*, Nov., 1938.

words, the abdominal muscles are not splinted for the protection of underlying abdominal disease, but are reflexly spastic from a distant source, so that a differential diagnosis can be made between perforated peptic ulcer and coronary thrombosis, for example.

2.—*Cope's sign:* Deep pressure, exerted upon the opposite side of the abdomen toward the affected side, will cause an exacerbation of pain in true intra-abdominal pathologic conditions.

3.—*Carnett's sign:* Tensing of the abdominal muscles by the patient, as by raising the extended legs, will prevent palpation of the deep abdominal tenderness. If tenderness persists undiminished after the muscles are tight, the pain is in the muscles and nerves in the abdominal wall, and is often referred from a fibrositis or arthritis of the back. (See CLIN. MED. & SURG., Jan., 1939, page 26.—ED.).

When pain is referred from the pleura, it is often limited to one-half of the body wall, follows lines of segmentation, and stops fairly abruptly in the midline. Tenderness elicited is often a hyperesthesia, and deep pressure may be less painful than light pressure.

WILLIAM BROCK, M.D.

San Francisco, Calif.

Hematemesis*

IN THE CONSIDERATION of the patient who has been vomiting blood, scant attention is often paid to the possibility that the hematemesis is caused by lesions other than bleeding peptic ulcer. Lesions of the esophagus, ranging from ulcer to carcinoma, gastritis, gastric carcinoma, gallbladder disease, blood dyscrasias, certain acute febrile diseases, and above all the cases associated with portal vein hypertension (portal and unclassified hepatic cirrhosis, splenic or portal thrombosis, splenic anemia, Banti's disease, Schistosoma mansoni) may be causative.

Cirrhosis of the liver and splenic anemia are accompanied by hematemesis in 25 percent of cases, due to enlargement of esophageal veins (esophageal varices). Medical treatment of bleeding from these varices is unsuccessful. Several surgical procedures have proved of value: (1) Ligation of the coronary veins; (2) ligation of the vasa brevia; and (3) splenectomy.

The early diagnosis of esophageal varices may be made by fluoroscopic study of the patient's esophagus after he has ingested a thin barium solution. Definite filling defects may be visualized. The films should be exposed during forced inspiration, as the varices form best at this moment.

MILTON PLOTZ, M.D., F.A.C.P.
N. E. REICH, M.D.

Brooklyn, N. Y.

Treatment of Gout†

GOUT is fairly common in this country, and is generally not diagnosed except as "arthritis."

The history, according to Hench, is typical: There are acute attacks followed by *complete* remissions, occurring with increasing frequency and after a number of years developing into chronically painful joints. It primarily affects the great toe, the *ankle*, the *deltoid bursa*, the *olecranon bursa*, the *wrist*, and the interphalangeal joints of the fingers. The attack develops in a few *hours;* an attack of rheumatoid arthritis develops in *weeks*. The ankle is commonly involved in gouty arthritis, and the knee only in rheumatoid arthritis.

The diagnosis can be made by giving sufficient doses of colchicine to cause moderate diarrhea. The gouty patient will experience remarkable relief. Cinchophen should be given in doses of 30 grains daily for from two to five days weekly, over a period of several months, in the treatment of the chronic stage. On the days it is not given, bicarbonate of soda should be administered in large enough doses to make the urine alkaline. The patient must not eat purine-containing foods. Watch should be made for the formation of renal stones, as renal colic may or may not be present.

K. K. SHERWOOD, M.D.

Seattle, Washington.

*Am. J. Dig. Dis., Aug., 1938.

†West. J. Surg., Nov., 1938.

The Seminar

Continued from page 182

Problem No. 4 (Diagnostic)*

Presented by P. F. Whitaker, M.D., Kinston, N.C.

A 40-YEAR-OLD jeweler presented himself with a chief complaint of headache, practically constant for seven months, in the right occipital region, with radiation into the frontal region and throughout the head. The dull ache, after persisting for hours, would become severe and throbbing, unless headache remedies were taken. Often he would awaken with it, but at times it would begin in the afternoon. For 15 years, he had noted sleepy attacks.

An otolaryngologist had examined his sinuses and eyes, without finding evidence of disease or malfunction. A competent dentist pronounced the teeth to be normal, after a radiologic examination.

The *previous history* revealed little of interest. Inspection showed a listless man of middle-age. The skin, especially that of the extremities, was dry and rough. A *complete* physical examination was performed, without finding evidence of disease.

Laboratory procedures: Red-cell count, 4,570,000; hemoglobin, 90 percent; white-cell count, 6,600 (56 polymorphonuclear cells; 2 large mononuclears; 28 small mononuclears; 3 endothelial leukocytes; 1 eosinophile per 100 cells); no malarial parasites found; blood Wassermann test, negative; blood urea, 28 mg.; blood sugar, 82 mg. per 100 cc.; urinalysis showed a good variation in specific gravity and failed to reveal any abnormality, chemically or microscopically. Gastric, stool, and spinal fluid examinations disclosed no evidence of disease.

Requirements: Suggest a tentative diagnosis, *giving reasons*, and the further studies YOU would make to arrive at a definite diagnosis.

*Adapted from *South. Med. & Surg.*

Diagnostic Pointers

Sensitive Colon

• The more I see of persons with a sensitive colon, the less I want to treat the bowel, and the more I want to treat the patient. *Do not tell the patient she has colitis unless the bowel is ulcerated and inflamed.* We should tell these patients with sensitive colons that they will probably always have it, that it will never injure them nor kill them, and it is up to them to learn to live with it and avoid the things that make it more irritable. Before a dinner or party, they should take a teaspoonful of paregoric or a quarter of a grain of codeine, to prevent the bloating and desire to go to stool.—W. C. ALVAREZ, M.D., in *Ohio S. M. J.*, Oct., 1937.

Diseases of the Fetus

• The diseases of the fetus and its membranes in utero are: Tuberculosis (rare); rickets (common); syphilis (common); new growths (rare); malformations, including general anasarca, congenital cystic elephantiasis, amputations, luxations, and fractures; infectious diseases, such as cholera, smallpox, and others (all rare); meningocele; hydrocephalus; hydramnios; oligohydramnios; and cystic disease of the chorion. — R. MAX GOEPP, M.D., in "State Board Questions" (W. B. Saunders Co.).

Mild Scurvy

• From our series of over 400 infants, it is evident that "latent" scurvy is actually mild but definite scurvy. During the time that mild scurvy was present, the rates of gain in weight and height were retarded but development in sitting, standing, walking, and talking were not. Mild scurvy may be activated by infection, allergy, or poor glandular heritage.—B. M. HAMIL, M.D., in *Am. J. Dis. Child.*, Sept., 1938.

The "Acute Abdomen" in Diabetic Patients

• I do not diagnose a patient as suffering from an acute surgical condition when glycosuria is present, until two hours have elapsed. During this time, an intravenous infusion of saline solution is administered. If the abdominal pain, tenderness, fever, rebound tenderness, and leukocytosis have not disappeared by this time, it is assumed that a surgical condition does exist. *Diabetic acidosis may reproduce all the manifestations of pyogenic disease in the abdomen.*—A. GRAY, M.D., in *West. J. Surg.*, May, 1938.

Maxillary Sinusitis

• It is almost a truism that the patient with recurrent pain in the face does *not* have maxillary sinusitis. The only symptoms may be those of frequent "colds" or colds that do not clear up; a purulent nasal discharge; a bad taste or smell; or general poor health and loss of appetite.—I. S. HALL, M.B., F.R.C.S.E., in "Diseases of the Nose, Throat, and Ear" (William Wood & Co.)

The Overweight, "Good" Baby

• It is believed that most babies weighing over nine pounds at birth are hypothyroid. The hypothyroid baby lies quiet in his crib, catches cold, sleeps, and is usually a "good" baby. There will be delayed eruption of teeth, walking and talking, and, if hypothyroidism is marked, he will be backward in school.—P. J. CONNOR, M.D., and F. J. MAIER, M.D., in *Colo. Med.*, June, 1937.

Acute Anal Pain

• All patients with acute anal pain have one of three conditions: Acutely thrombosed hemorrhoids; anal fissure; or abscess. If the pain has been present over a period longer than the time when an abscess would have ruptured, and no thrombosed hemorrhoids are visible, a fissure is almost certainly present. Examination should not be carried out until a surface anesthetic, such as Nupercaine, has been applied, or Novocain injected. The fissure will not recur if it is excised and the subcutaneous portion of the external sphincter muscle excised in a single, wedge-shaped, narrow piece of healthy tissue. — PAUL C. BLAISDELL, M.D., in *Surg., Gynec., & Obst.*, Nov., 1937.

Unconsciousness in Brain Injury

• Any appreciable injury to the brain is usually evidenced by *unconsciousness*, however slight, and later by *headache*. The importance of ascertaining a conscious interval between two or following one period of unconsciousness cannot be overestimated. In its classical form, it is pathognomonic evidence of the presence of an extra or subdural hemorrhage and places the burden of proving the lack of necessity for immediate operative interference squarely on the attending surgeon. Amnesia (loss of memory), if definitely demonstrated, predicates an unconscious period. — DONALD MUNRO, M.D., in "Cranio-Cerebral Injuries" (Oxford Medical Publications, New York, 1938).

Thumbnail Therapeutics

Treatment of Dysmenorrhea

• The dysmenorrheic patient with a large, well-developed uterus, which exhibits moderate to large contractions on the uterine balloon tests, usually obtains complete relief from pain after treatment with progesterone (Proluton). The patient with the small, hypoplastic uterus is likely to respond favorably to estrogenic substance.—J. E. LACKNER, M.D., LEON KROHN, M.D., and S. SOSKIN, M.D., in *Am. J. Obst. & Gynec.*, Aug., 1937.

Post-Tonsillectomy Infection

• In postoperative infections following the removal of the tonsils, manifesting itself by persistent hyperpyrexia, undue sloughing of the tissues, and symptoms of general sepsis, iodine, in the form of the tincture swabbed over the throat, produces a marked subsidence of symptoms. The application may be repeated once or twice a day for several days, as necessary. It has also been found that the spasmodic coughing and extreme difficulty in swallowing, which occasionally result from injury or infection of the uvula during tonsillectomy, are promptly remedied by a few applications of tincture of iodine.—E. PODOLSKY, M.D., *E. E. N. & T. M.*, Jan., 1939.

Sulfanilamide in Meningitis

• The lives of 55 to 80 of every 100 sufferers from meningitis caused by a streptococcus are now saved by the addition of sulfanilamide to the standard surgical treatment of this disease, which, as late as three years ago, killed nearly all of its victims. —C. H. MCCASKEY, M.D., before the Annual Clinical Congress of the American College of Surgeons, New York City, Oct. 18, 1938.

Oil of Wintergreen: A Home Hazard

• Oil of wintergreen is extremely poisonous. It is an especial hazard in the home with children, because of its pleasant odor.

When poisoning occurs, treatment consists of immediate and thorough lavage. Small amounts of sodium bicarbonate or magnesium sulphate solution may be left in the stomach.

If collapse occurs, supportive measures are indicated. Epinephrin should be given for weakness of the heart. Convulsions may be controlled with chloral hydrate. Urinalysis should be performed repeatedly, to detect albumin, acetone, or sugar. Fluids, intravenously, may be necessary.—T. E. KANE, M.D., in *Iowa S. M. S. J.*, June, 1938.

Treatment of Intestinal Obstruction

• Intestinal obstruction no longer calls for an emergency operation, for by the use of the duodenal tube and suction, distension of the small bowel and stomach is relieved and time is afforded to improve the patient's general condition, and many cases will be spared the necessity of operation. This is particularly true where an adhesive band has constricted a loop of ileum, and resulting edema and gas accumulation has begun a vicious circle. Relief of distension allows the edema to subside and gas will frequently pass. Where gangrene of the bowel may be suspected (as in strangulated hernia or volvulus), immediate operation is life-saving.—J. L. GREEN, M.D., in *Southw. Med.*, Nov., 1938.

Removal of a Pin from the Intestine

• After carefully isolating the segment of gut with pads, by manipulation the point of the pin is made to protrude through the intestinal wall. As soon as the point appears, it is grasped with a hemostatic forceps; the fingers do not touch the infected metal. A purse-string suture is inserted around the perforation and, with a firm tug, out comes the pin. The purse-string suture is then tied.—HAMILTON BAILY, F.R.C.S. (Eng.), in "Emergency Surgery" (Baltimore: Wm. Wood & Co.).

Dextrose in Diarrhea

• Orally administered, dextrose inhibits the growth of putrefactive bacteria; that is, it causes replacement of putrefactive bacteria, predominating during alimentary disturbances, by fermentative organisms characteristic of the normal intestine. Also, dextrose provides a nonirritating and easily absorbed food.—E. MARTIN, Sc.D., in "Dextrose Therapy" (Paul B. Hoeber, N. Y. City).

The Duodenal Tube in Dilatation of the Stomach

• With frequent use of the indwelling duodenal tube and suction, acute dilatation of the stomach is never found. Healing of the wound is hastened and the patient's comfort is assured. The tube should be used in the dilatation occurring in the course of pneumonia, fracture of ribs or vertebrae, and retro-peritoneal hemorrhage and infection.—J. L. GREEN, M.D., in *Southw. Med.*, Nov., 1938.

New Books

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., is accompanied by a check for the published price of the book.

THE DOCTOR'S STUDY

Many times the reading of a book has made the fortune of a man—has decided his way in life.—EMERSON.

Surgical Technic

Thorek

MODERN SURGICAL TECHNIC. *By* MAX THOREK, M.D., K.L.H. (France); K.C. (Italy), *Prof. Clinical Surgery, Cook County Graduate School of Medicine; Attending Surgeon, Cook County Hospital; Surgeon-in-Chief, the American Hospital; Consulting Surgeon, Municipal Tuberculosis Sanitarium, etc. Complete in Three Volumes. With 2,174 Illustrations, Originals Principally by W. C. Shepard. With a Foreword by* DONALD C. BALFOUR, M.B., M.D. (Tor.) LL.D., F.A.C.S., F.R.A.C.S., *Head of Section in Division of Surgery, The Mayo Clinic; Director and Professor of Surgery, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, etc. Philadelphia: J. B. Lippincott Company.* 1938. *Price,* $33.00.

THE ordinary surgical textbooks fall into two classes: The all-inclusive "systems," which cover the whole field voluminously, with little or no discrimination, so that the seeker for information needs to be something of a detective to find what he wants; and the brief, one-volume "handbooks," which, necessarily, sacrifice completeness to brevity. Both of these types serve useful purposes.

The student and the general surgeon (especially the general practitioner who does his own surgery) need a work which will give them all the details they need to know for the performance of any operation likely to be met in practice, unincumbered by too much historical and philosophical discussion and a multitude of different technics for the same purpose, and so arranged as to be easily accessible for quick reference. Such a purpose is well served by this work.

Beginning with discussions of such basic matters as the relation between surgeon and patient; the arrangement and lighting of an operating room; preoperative preparation of the patient and the surgeon, etc. (so that the student and occasional operator need take nothing for granted), the next 50 pages are devoted to various types of anesthesia. From then on the book consists of step-by-step descriptions of the most satisfactory operations for practically every condition amenable to surgical treatment.

A considerable part of the book's value lies in the unusual number (2,174) and character of the illustrations. The step-by-step technic drawings, by Shepard, have really more instructional value than repeated attendance at operative clinics.

Volume I contains general considerations, the technics of operations on the head and neck, and plastic operations. Volume II covers operations on vessels, nerves, and bones, and those on the thorax and breasts. Volume III takes up operations on and in the abdomen, genito-urinary, and female genital organs, and the purely surgical treatment of hernia. Each volume has its own independent index (which is a convenience), and, at the front, a brief summary of the contents of all three volumes.

While it is not possible, even in the scope of the more than 2,000 pages which this work contains, to describe every operation or procedure which every surgeon considers valuable, it is safe to say that any student, general practitioner, or ordinary general surgeon who has this work will very rarely, if ever, find it necessary to refer to any other in meeting his surgical problems.

Margaret Sanger

MARGARET SANGER: AN AUTOBIOGRAPHY. *New York: W. W. Norton & Company.* 1938. *Price,* $3.50.

IT is well that the story of the most remarkable woman of this generation should have been written by herself, while she is still in the fullness of her powers of memory and expression. No one else could have told, so accurately and dramatically, the tale of her epic struggle for the release of women from slavery to outworn prejudices, entrenched and prurient prudery, and the appalling inertia of the masses who never think. Though she wore no medieval armor, the world has seen no such dauntless soldier, in woman's flesh, since the days of the Maid of Orleans. Perhaps some of this fighting blood came from her Irish parents, Anne Purcell and Michael Hennessy Higgins.

The story of any truly great person is always worth reading, if for nothing else than to find out how he (or she) got that way. When that story is told by an intensely human individual, who has a deep and genuine sense of humor and a beautifully spontaneous and sensitive literary style, it becomes a joy, as well as a duty, to read it. And when the events of the life portrayed are more varied and exciting than those of any ordinary character in romantic fiction, no person of sense and sensibility can afford to overlook the rare opportunity for reading such a story. Those who have to retire before dawn, are warned against starting in on this book of an evening.

While every intelligent and thoughtful person owes it to himself to be familiar with the life of a woman whose fame is world-wide and will *grow*, rather than fade, with the passing years, until it outstrips that of all of the soldiers and most of the statesmen and scientists of our time, physicians should be especially keen to know all that is possible about one whose life work has probably had a profounder long-time beneficial influence upon human health and welfare (which are the basic objectives of the medical profession) than that of anyone else now living—the promulgator and popularizer of Haldane's sixth epoch-making "biologic invention."

For the basic and enduring importance of its subject matter and for the vivacity, sincerity, and charm of its literary style, this book should be on the "must list" of every thoughtful and literate American.

The Emotional Factor in Visceral Disease

McGregor

THE EMOTIONAL FACTOR IN VISCERAL DISEASE. *By* H. G. McGregor, M.D., M.R.C.P., *Medical Registrar, Royal Sussex County Hospital. Foreword by* R. D. Gillespie, M.D. (Glas.), F.R.C.P. (Lond.), D.P.M. (Lond.). *London: Oxford University Press: Humphrey Milford.* 1938. *Price,* $3.00.

EVERY organic illness is complicated by emotional factors and many illnesses are of emotional origin. Every physician should be, but few are, capable of recognizing and treating the emotional causes of disease.

The author has well expressed his purpose thus: "The purpose in bringing together in a small volume the facts which are known concerning the effects of emotion upon bodily functions is twofold; firstly, to present the information which is scattered widely through the literature, in as compact a form as possible; secondly, to emphasize the extent to which emotional reactions are productive of disease."

We are all hampered by the organic theories of disease and are too prone to dismiss the "nervous" patient with a heartening (?) reassurance that "nothing is wrong." This attitude is due to a lack of training in the diagnosis and treatment of emotional diseases.

McGregor briefly expounds the basic facts in emotion, on indigestion, on peptic ulcer, on ulcerative and mucous colitis, on respiration, asthma, and cardiovascular diseases. He discusses treatment in an extended and lucid manner. His cautions are especially apt when the patient refuses to discuss one factor or another.

Modern Surgery

Handfield-Jones and Porritt

THE ESSENTIALS OF MODERN SURGERY. *Edited by* R. M. Handfield-Jones, M.C., M.S., F.R.C.S., *Surgeon to Out-Patients, St. Mary's Hospital; Senior Surgeon Florence Nightingale Hospital; Consulting General Surgeon, Hospital for Women, Soho Square; Consulting Surgeon, St. Giles Hospital, etc.; and* A. E. Porritt, M.A., M.Ch., F.R.C.S., *Surgeon to His Majesty's Household; Surgeon to Out-Patients and Assistant Director of St. Mary's Hospital Surgical Unit; etc.* 1,126 *Pages;* 501 *Illustrations. Baltimore: The Williams and Wilkins Company.* 1938. *Price,* $9.00.

AN editorial board of fifteen leading English clinicians wrote this large one-volume surgical text. The book is beautifully printed and illustrated.

Despite the tremendous amount of good work that has been expended on this text, the feeling that one has after reading various sections is one of disappointment. It would seem that much of the experimental and clinical work of the past five years has not been included.

Among other lapses, the old Sayre method of treating clavicular fractures is described and noted as being "fool-proof." This antiquated technic involves the immobilization of many joints with adhesive tape, and no adhesive tape support can be said to be fool-proof. A light, cross-chest cast of the newer synthetic materials or plaster of Paris will immobilize only the shoulder joint and permit motion of other joints.

The treatment of acute pancreatitis is described as surgical, with drainage of the common duct and both ends of the pancreas. Why a severely shocked patient should be subjected to all this trauma is not explained. It is noted, however, that the mortality rate is too high.

No mention is made of the use of the duodenal tube for suction in the treatment of paralytic ileus following operation or as a preoperative measure in the treatment of acute intestinal obstruction, and the invaluable aid offered by a roentgenogram in localizing and diagnosing intestinal obstruction is not discussed.

The usual plan of presentation of basic surgical subjects is followed: Inflammation, infection, tumors and cysts, venereal diseases, wounds and their effects, ulceration and gangrene, surgical technic, anesthesia, physical therapy and radiotherapy, comprise the introductory chapters, followed by chapters on the various regions of the body and their surgical diseases and treatment.

Pediatric Symptoms and Diagnosis

Blum

PEDIATRIC SYMPTOMATOLOGY AND DIFFERENTIAL DIAGNOSIS. *By Sanford Blum, A.B., M.S., M.D., Head of Pediatrics Department and Director of the Research Laboratory, San Francisco Polyclinic and Postgraduate Hospital. 29 Illustrations, One Color Plate. Philadelphia: F. A. Davis Company.* 1938. *Price,* $5.00.

THE purpose of this book is to assist in the diagnosis of the diseases of children; therefore, symptoms and differential diagnosis are discussed at length. As the author says, "It is impossible to identify a disease without knowing what pathologic conditions encountered correspond with those of a disease already known, or in exceptional instances, differ from those of known diseases and indicate one hitherto unknown. Hence knowledge of recognized diseases is the primary requisite for diagnosis."

The work is well organized and any material desired may be found readily under the respective headings. An especially helpful section is that on diseases of the newborn, which is subclassified into diseases with respiratory manifestations; with icterus and hemic manifestations; with hemorrhagic manifestations; with glandular manifestations; with nervous manifestations; with skin manifestations; with ocular affections; and with umbilical disease. On encountering disease in the newborn, one may find ample material on diagnosis of the relevant pathologic conditions within three or four minutes.

Diseases of the various organs of the body are then considered in turn, with pointers on differential diagnosis. The exanthems receive much attention, first being discussed separately and then the differential diagnosis being considered for each step in the history of the disease, incubation, onset, course, type of eruption, et cetera. The fourteen pages on this subject are full of valuable information. The intern who has seen few cases of chicken pox will be glad to know that hives do not appear on mucous membranes, in contrast to chickenpox.

The busy pediatrician, who is liable to overlook some causes of symptoms, the general practitioner who may be confronted by a rare disease of children, and the intern will do well to keep this book handy.

Infections of the Hand

Kanavel

INFECTIONS OF THE HAND: A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand, and Forearm. *By* Allen B. Kanavel, M.D., Sc.D., F.A.C.S., *Late Professor of Surgery, Northwestern University School of Medicine, Chicago; Attending Surgeon, Wesley Memorial and Passavant Hospitals, Chicago. Seventh Edition, Thoroughly Revised.* 503 *Pages; 229 Engravings, Some in Color. Philadelphia: Lea and Febiger.* 1939. *Price,* $6.00.

THE only sad aspect in reviewing such a surgical masterpiece as this one, is that of regret that there could not be more such clinicians as Kanavel. His proudest monument is to be found in the happy, useful lives of those persons whose hands have been saved from deformity through the applications of the principles he worked so hard to establish.

His methods of treatment are based upon careful study and experimentation with the hand and forearm, in the living subject and in the cadaver. Those who have followed his rules implicitly and have attained good functional results will continue to follow them, regardless of any statements made in the current literature by physicians without his wide background of experience and study.

He had the happy facility of knowing much and being able to express it briefly and in such a manner that it could be easily remembered. The surgeon can pick up this work and, in ten or fifteen

minutes, have at his fingertips the important points on diagnosis and treatment of infections of the fingers or hand. By so doing, he will be able to make an early diagnosis of tendon-sheath infection, and by means of early, accurate incisions, will prevent loss of function.

In this, the seventh edition, changes have been made as knowledge has clarified. Every important advance, including physical therapy treatments, has been included.

Plastic Surgery

Schireson

AS OTHERS SEE YOU: The Story of Plastic Surgery. *By* HENRY J. SCHIRESON, M.D. *Philadelphia. New York: The Macaulay Company.* 1938. *Price,* $3.00.

THE physician and the patient will be interested in this well-written and interesting story of plastic surgery; of those who need it and have had it; of the various methods by which the deformed or mutilated can be restored to social and financial equality.

Not the least interesting section of the book is the last, which contains some 84 photographs of patients before and after corrective operations on the nose, face, breasts, hips, and legs.

Dr. Schireson writes well and interestingly of the various defective parts of the body and how they may be remedied surgically. Although the description is non-technical, enough detail is given to make the book instructive to the physician. He does not recommend amputation of a portion of the breast as the first step in replacing it. He does not depend upon "face-lifting," with its simple removal of skin, to give permanent benefit to the relaxed and wrinkled face. In other words, he gives evidence that plastic surgery has passed its infancy, and that simple, first-thought measures are no longer employed by capable surgeons.

The New International Clinics

THE NEW INTERNATIONAL CLINICS. *Edited by* GEORGE MORRIS PIERSOL, M.D., *Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania. Vol.* 4; *New Series* 1 *(Old 48th),* 1938. *Philadelphia, Montreal, London: J. B. Lippincott Company. Price,* $3.00.

THIS volume of Lippincott's famous Clinics contains three articles on obstetric subjects. That on the placenta, by James E. Davis is a complete, scholarly, and well illustrated lecture. Colvin and Bartholomew discuss the paraldehyde method of relief of pain in labor. Henry *et al* present the subject of abortion in connection with the corpus luteum, and state that many abortions go on to completion, despite the use of progesterone, because the embryos were abnormal.

Recurrent attacks of vomiting in children, polyneuritis, clinical considerations and treatment of hypertension, length of life in cardiac cases, tannic acid treatment of burns, management of functional disorders of the colon, prolapse of the rectum, and differentiation between pulmonary and cardiac insufficiency in chronic pulmonary disease, indicate the wide range of subjects covered. The last article is especially valuable to the practitioner who is consulted on account of dyspnea by an emphysematous patient.

Internal Medicine

Yater

THE FUNDAMENTALS OF INTERNAL MEDICINE. *By* WALLACE M. YATER, A.B., M.D., M.S. (in Med.), *Professor of Medicine and Director of the Department of Medicine, Georgetown University School of Medicine; Physician-in-chief, Georgetown University Hospital and Gallinger Municipal Hospital, Washington, D.C.; Formerly Fellow in Medicine, The Mayo Foundation, Rochester, Minnesota. New York and London: D. Appleton-Century Company, Inc.* 1938. *Price,* $9.00.

THIS volume is designed primarily for the introduction of students to the subject of internal medicine. In the specialties of otolaryngology, ophthalmology, and dermatology, only such information is included as an internist or general practitioner should possess. A section on dietetics is modern in viewpoint.

The most interesting and practical method of introducing each group of diseases, such as those of the heart or lungs, is the general introduction with listing of those symptoms which call attention to the organs affected, and a discussion of what those symptoms mean. (The statement, "Cough . . . ; occurs in all diseases of the bronchi and lungs," is not correct, even though it is later qualified).

There is a freshness of viewpoint which is a welcome change from the standardized routine of describing disease and is thought-provoking. "Affections of the pleura resemble those of the pericardium, the two structures being similar functionally and morphologically. Just as in pericarditis there are two forms, the wet and the dry, in pleuritis there is a dry or fibrinous form and a wet or serofibrinous type." The best teaching is that which correlates every fact learned with another fact.

In the field of internal medicine, the text is well-written and modern in viewpoint.

The Single Woman

Hutton

THE SINGLE WOMAN AND HER EMOTIONAL PROBLEMS. *By* LAURA HUTTON, B.A.Lond., M.R.C.S. Eng., L.R.C.P.Lond., *Physician, Tavistock Clinic, London. With a Foreword by* DAVID FORSYTH, M.D., F.R.C.P. *Second Edition. Baltimore: William Wood and Company.* 1937. *Price,* $1.50.

THE large numbers of women who, within the past generation, have decided to earn their living in some other way than by marriage, are faced by a number of serious problems, by no means the least of which are those in the social and sexual sphere, which cannot be escaped, nor safely denied or overlooked.

Dr. Hutton, in this small and well-written volume, has approached these problems with a sincere frankness and thorough knowledge of their character and connotations which are a refreshing contrast to the cloudy mixture of ignorance, prudery, and prurience which have enshrouded them until rather recently, and with an understanding of and adherence to the best thoroughly modern consensus which deserves high praise.

Most physicians will find in this little book, information which will enable them to be of vast assistance to a class of women who are too little understood, by themselves or by the medical advisers to whom they go seeking help.

If this book could be placed in the hands of every single woman of thirty years or more (and of those younger than that who have definitely decided, for one reason or another, to remain unmarried), the general average of happiness in this group would be enormously increased; and the physician who recommends this authoritative discussion to the serious consideration of any woman in this class who is struggling with one or more of the problems of her situation, will win her undying respect and gratitude.

Everyday Surgery

Rogers and D'Abreu

EVERYDAY SURGERY. *By* LAMBERT ROGERS, M.Sc., F.R.C.S., F.R.C.S.E., F.R.A.C.S., F.A.C.S., *Professor of Surgery, University of Wales; Director of the Surgical Unit Welsh National School of Medicine; Hunterian Professor, Royal College of Surgeons; Examiner in Surgery, University of Glasgow and National University of Ireland; etc.; and* A. L. D'ABREU, M.B., Ch.M., F.R.C.S., *Senior Assistant, Surgical Unit, Welsh National School of Medicine; Assistant Thoracic Surgeon, Welsh National Memorial Association; etc. With an In-*

troduction by PROFESSOR G. GREY TURNER, M.S., F.R.C.S., D.Ch., F.R.A.C.S., F.A.C.S. *Baltimore: William Wood and Company.* 1938. *Price,* $4.75.

PROFESSOR TURNER'S introduction carries much of the meat of surgical thought: "It must be borne in mind that the general principles of pathology apply to disease processes, whether they occur in the abdomen, chest, within a bone, or elsewhere. . . . It cannot be too strongly emphasized that diagnosis is frequently more than half way towards successful treatment. The importance of this question is exemplified in those patients who come complaining of some long-standing hernia, which they desire treated in the expectation that relief of symptoms will ensue. Ulcer, gallstones, or malignant disease may be responsible for the symptoms. . . . In dealing with everyday surgical conditions, like multiple injuries in car accidents, we must always pay regard to a comparatively minor trouble in the presence of very serious injuries."

The volume is of small, handy size, and is well bound in leather, making it easily available for the student, intern, and practitioner.

The authors emphasize the important factors in common surgery, in the treatment of common emergencies (shock, hemorrhage, burns, infections), in the handling of surgical diseases of the hand, veins, rectum, appendix, gallbladder, alimentary tract, genito-urinary system, breast, thyroid gland, bones, joints, and the nervous system. Fractures and dislocations are considered briefly but clearly.

One hundred and sixty one (161) clear line drawings illustrate surgical points.

Feminine Hygiene in Marriage

Niemoeller

FEMININE HYGIENE IN MARRIAGE. *By* A. F. NIEMOELLER, A.B., M.A., B.S., *Author of American Encyclopedia of Sex; Men Past Forty; Superfluous Hair and Its Removal; et cetera. New York: Harvest House.* 1938. *Price,* $2.00.

THIS pocket-size volume is written for lay reading. It explains in detail many of the problems that confront the average woman and which are so confusing to her because of lack of adequate knowledge.

The author repeats Robinson's sage advice of some years ago, in his warning that a douche is never necessary for a normal genital tract. The discussion on douching is scientific, although recent work on the mildly acid douche is not mentioned.

The mechanism of painful, delayed, and otherwise abnormal menstruation is fully presented. Vaginal and uterine disorders and discharges comprise two chapters.

If every wife would read the chapter on marriage hygiene, and remember the words of wisdom on dressing attractively and keeping herself spotlessly clean, fewer men would let their eyes stray toward their immaculate secretaries. Niemoeller's advice, in these few pages on the preserving of the spontaneity of sexual desire and intercourse, is well worth the price of the book, which may well be recommended to patients.

It is unfortunate that, in personal handbooks written by laymen, a physician is not consulted *before* they are printed, so that they could be slightly altered to conform to modern thought.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

SURGICAL ANATOMY. *By* C. LATIMER CALLANDER, A.B., M.D., F.A.C.S. *With a Foreword by* DEAN LEWIS, M.D., Sc.D., LL.D., F.A.C.S. 2nd *Edition, Entirely Reset. Philadelphia: W. B. Saunders Company.* 1939. *Price,* $10.00.

SYMPTOMS AND SIGNS IN CLINICAL MEDICINE. An Introduction to Medical Diagnosis. *By* E. NOBLE CHAMBERLAIN, M.D., M.Sc., F.R.C.P. 2*nd Edition. With a Chapter on* The Examination of Sick Children *by* NORMAN B. CAPON, M.D., F.R.C.P. *Baltimore: William Wood & Company.* 1938. *Price,* $8.00.

PROBLEMS OF AGEING. Biological and Medical Aspects. *Edited by* E. V. COWDRY. *A Publication of The Josiah Macy, Jr. Foundation. Baltimore: The Williams & Wilkins Company.* 1939. *Price,* $10.00.

IODINE METABOLISM AND THYROID FUNCTION. *By* A. W. ELMER, M.D. *New York: Oxford University Press.* 1938. *Price,* $10.00.

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DER RHEUMATISMUS. Volume 13. Das Erbbild Der Rheumatischen und Chronischen Gelenkerkrankungen. *By* DR. MED. HABIL. WERNER HANGARTER. *Dresden und Leipzig: Verlag von Theodor Steinkopff.* 1939. *Price, RM* 6.15.

WHITLA'S DICTIONARY OF TREATMENT. Including Medical and Surgical Therapeutics. 8*th Edition by* R. S. ALLISON, M.D., M.R.C.P. (LOND.) *and* C. A. CALVERT, M.B., B.Ch., F.R.C.S.I. *Baltimore: William Wood & Company.* 1939. *Price,* $9.00.

KUNDALINI. An Occult Experience. *By* G. S. ARUNDALE. *Adyar, Madras, India: The Theosophical Publishing House.* 1938. *Price,* $0.90.

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FROM SAVAGE TO SUPERMAN. *By* MARY K. NEFF. *Wheaton, Illinois: The Theosophical Press.* 1938. *Price,* $0.15.

A TREATISE ON THE SURGICAL TECHNIQUE OF OTORHINOLARYNGOLOGY. *By* GEORGES PORTMANN, *Collaborators,* H. RETROUVEY, J. DESPONS, P. LEDUE, *and* G. MARTINAUD. *Translation by* PIERRE VIOLE, M.D. *Baltimore: William Wood & Company.* 1939. *Price,* $12.50.

MEDIZINISCHE PRAXIS. Volume 27. Die Peripheren Durchblutungsstorungen. *By* DR. MED. HABIL. M. RATSCHOW. *Dresden und Leipzig: Verlag von Theodor Steinkopff.* 1939. *Price, RM* 9.15, *paper bound; RM* 10.80, *cloth bound.*

A LIFE VIEW FOR MODERNS. Life, Death, Fate, and Free Will. Two Lectures. *By* PIETER K. ROEST, Ph.D. *Wheaton, Illinois: The Theosophical Press.* 1938. *Price,* $0.35.

PULMONARY TUBERCULOSIS. A Synopsis. *By* JACOB SEGAL, M.D. *Foreword by* THE LATE POL N. CORYLLOS, M.D., F.A.C.S. *New York: Oxford University Press.* 1939. *Price,* $2.75.

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TWENTY-FIRST ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH. *July* 1, 1937 *to June* 30, 1938. *Issued by Department of Public Health,* ALBERT C. BAXTER, M.D., *Acting Director. Printed by authority of the State of Illinois.*

HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN. *By* PROF. DR. EMIL ABDERHALDEN. *Lieferung* 475. *Berlin: Urban & Schwarzenberg.* 1938. *Price, RM* 15.—.

Medical News

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New Nutrition Machine

DR. TADASU SAIKI, of Tokyo, Japan, has invented a new machine that will tell in a half-hour what kind of nutrition one's body needs. In this coffin-like machine the patient is hermetically sealed, for twenty-five minutes, and the contents of the air inhaled and exhaled is analyzed for the various elements contained therein. By this means a precise analysis is made and proper diet recommended.

Syphilis Control

THE United States, Public Health service is cooperating with physicians to help them make their patients and the public aware of the facts regarding syphilis. A new folder, on the lines of the one announced last June, entitled, "Syphilis and Your Town," is now ready. Send 5 cents to the Superintendent of Documents, Washington, D.C., for a specimen copy. Then order them for wide distribution, at $1.00 a hundred.

Page Margaret Sanger!

ACCORDING to the *Chicago Tribune* for March 5, 1939, there is a women 43 years old, down in the Hoosier State, who is already 17 times a grandmother, and who recently gave birth to her own *eighteenth* child. Her eldest daughter has 9 children, and her next daughter 7. Nothing is reported as to the twinning propensities of these appallingly fecund females, nor regarding the number of human guinea pigs on relief, where fertility seems to reach its peak.

Opening in Texas

A TOWN of 1,000 population, in northern Texas, which has supported two physicians (now retired), needs an active and capable general practitioner. This looks like a real chance for a good man. For further information, write to Vic Lamb, Hale Center, Tex.

A. M. A. Meeting

THIS year the American Medical Association is meeting in the Midlands, and there ought to be a big turnout of men who do not feel that they can travel to one seacoast or the other. The exhibits and the meeting with old and new friends are enough to give one a big moneysworth. The excellent lectures and demonstrations are velvet. Don't forget the place and dates—St. Louis, Mo., May 14 to 20, inclusive. Better make hotel reservations *now*.

Birth Control Federation

REALIZING the force of the adage, "In union there is strength," the Birth Control Clinical Research Bureau, the American Birth Control League, and the Committee of Mothers' Health Centers of New York City have pooled their resources, leadership, and energies in the Birth Control Federation of America, Inc., organized last January. More power to the new Federation! Write to them for help in your personal problems. The address is 501 Madison Ave., New York, N. Y.

Auto Accident Facts

ONE of the best antidotes against the appalling toll of deaths and maimings taken by the automobile is to educate the selfish and thoughtless drivers. To help in that work, the Travelers Insurance Co. has issued a striking and valuable brochure which contains material of vital interest and value to every driver. Write to Harry Barsantee, Travelers News Bureau, Hartfort, Conn., for a free copy of "Lest We Regret."

Dagenan Now Available

THE drug, Dagenan (Sulfapyridine — Merck), which up to now has been furnished only to institutions for controlled clinical experiments in the treatment of pneumonia, is now commercially available to the medical profession. The results of its use have been decidedly encouraging.

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